Nera WorldPhone
User's Manual

NERA
T E L E C O M M U N I C A T I O N S

Changing the way you communicate

RADIATION WARNING

High levels of radio frequency radiation are considered health hazardous. Although no single value of "safe radiation level" has been agreed upon by all countries, the American National Standards Institute (ANSI/LEEE C95.1-1992) recommends that people should not be exposed to radiation stronger than 1 milliwatt per square centimetre at the frequencies used in the WORLDPHONE terminal. Accordingly, the operator of the terminal should ensure that the area extending 1 metre from the front of the antenna be kept clear of personnel when the terminal is transmitting.

RADIO FREQUENCY RADIATION HAZARD - KEEP CLEAR 1 METRE MINIMUM

OBTAINING LICENSING FOR INMARSAT TERMINALS

Under rights given under ITU Radio Regulations, local telecommunications administrations establish and enforce national rules and regulations governing types of emissions, power levels, and other parameters that effect the purity of signal, which may be radiated in the various frequency bands of the radio spectrum.

To legally operate an Inmarsat terminal, it is necessary to obtain permission from the local telecommunications regulatory authorities of the country you are operating within. Using your terminal in any country without permission causes you to run the risk of confiscation of the terminal or legal action from local authorities. Normal practice for taking telecommunications into another country is to apply for a license before travel. If a license has not been obtained before travel, the equipment may be put into storage by local authorities until such time as a license is obtained.

All specifications are subject to change without notice.

1. Getting Started

2. Operation

3. Telefax Service

4. Data Service

5. Appendices

WorldPhone – User's Manual

The design and specifications of the
equipment may be changed without notice.

Introduction

General

The WorldPhone communication terminal provides access to the international dial-up telephone, facsimile and data networks via the INMARSAT satellite system.

• The terminal **Telephone Unit** (**TPU**) *can be operated with any of the below six WorldPhone antennas:*

• **WorldPhone Portable** antenna with RF transceiver built into the lid.

The antenna also allows semi- or fixed mounting on a flat surface, or tripod.
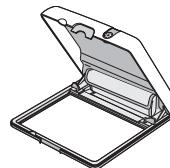
• **WorldPhone Marine**, a tracking antenna designed for use on marine crafts, leisure yachts and work boats alike.
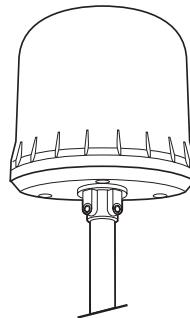
• **WorldPhone Voyager**, a tracking antenna designed for use on vehicles, trains or riverboats.
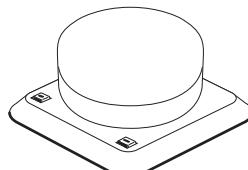
Introduction cont'd

• **WorldPhone Provident**, a fixed mounted antenna designed to provide telecommunication services for remote villages, farms, businesses, construction sites etc.
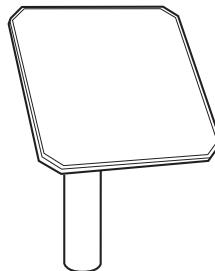
• **WorldPhone Expander**, which allows simultanous operation of up to six WorldPhone Telephone Units through a one meter parabolic dish antenna.

See separate information.
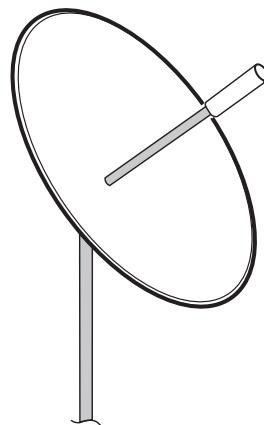
• **WorldPhone Aero**, intended for use on the small to medium size aircraft.

See separate information.
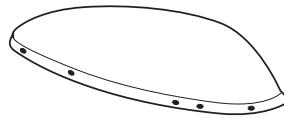
Note!
It is advisable to turn off the equipment prior to switching antenna.

Connector panel (rear wall)

Telephone keypad

Loudspeaker for handsfree operation

ON/OFF key

Function keys

SIM card

HELP key

Arrow keys

Telephone handset

8 lines x 40 character display

20 Sep 1998   15:20

Net service provider and satellite

►Telenor in AOR-E

Instruction

►Dial 00 + country code + subscriber no

Battery indicator **DC** replaces symbol when adapter/power

470   ▭▯ ☒   SIM   Book Last Menu Seek

Varying functions

Signal strength

NIMS/mail alert

Function keys

Shows that SIM card is inserted

ON/OFF key

HELP key

Escape key

| Ф | Esc | | | | | | | |

| 1!/? | 2abc | 3def | Help |

| 4ghi | 5jkl | 6mno |

| 7pqr | 8stu | 9vwx | ▲ |

| * | 0yz | # | ◄ | ▼ | ► |

Number/letter keys

Arrow keys

Figure 1.1 WorldPhone Telephone Unit (TPU).

SIM card

The SIM card (Subscriber Identity Module) carries subscription information from your Inmarsat Service Provider (ISP) or Net service provider on an integrated circuit. The WorldPhone used with the SIM card assumes the identity of the SIM card.

The SIM card has its own set of numbers on which the user can be contacted irrespective of the WorldPhone used. All outgoing calls will be billed to the owner of the SIM card.

The SIM card is protected by means of a lock code. When buying a SIM card you will receive a Personal Identification Number (PIN) that will contain up to 8 digits. Contact your dealer if you do not have your PIN code.

If the PIN code entered does not match the PIN code on the SIM card, operation with that particular SIM card will lock-up after three failed attempts. You must then use the SIM un-block code (PUK code) provided by your ISP to un-lock the card. Contact your dealer if you do not have the PUK code.
Note! When using the PUK, the SIM PIN is set to 1 2 3 4.

To change or disable the PIN code, *see "User access" in chapter 2. Operation.*

The SIM card can store miscellaneous information, f.ex.:
- PIN code (Personal Identification Number)
- Last number list (previously called numbers)
- Phone book
- Allowed and preferred Net service providers

Note! When using SIM card, the accessibility of the functions described in this manual will depend on the card supplier.

PIN code

The user is prompted for the 4-8 digit Personal Identification Number each time the WorldPhone is switched on:
- SIM PIN? (with SIM card).
- Phone PIN? (without SIM card).

Be aware that the PIN protection may have been disabled, see "User access" in chapter 2. Operation.

Mail service

The Internet Messages Service (**NIMS**) allows a message of maximum 1024 characters to be sent *to* the WorldPhone from a website, or *from* the WorldPhone to an e-mail address or another WorldPhone.

NIMS messages are addressed to a response NIMS IMN number.
See also appendix G.

Telephone

A DTMF telephone, cordless base station or PABX may be connected to the WorldPhone. This additional telephone is assigned a separate incoming call number.

Telefax service

The **Telefax** facility supports Group 3 fax transmission at a rate of 2.4 Kbps. The telefax is assigned a separate incoming call number.

Data service

The built in **Data Transmission Service** is capable of transferring data at 2.4 Kbps. It allows the WorldPhone to interface with a PC without the aid of a modem or data card.

The Asynchronous Data (ASD) system provides data transfer between two WorldPhones, or between a WorldPhone and the fixed international network.

The data facility is assigned a separate incoming call number.

10-32VDC:	**FAX**:	**TEL**:	**DATA**:	**ANT**:
WorldPhone Portable: input for simultaneous powering and charging (min.12V) of internal battery pack. *Polarity independent.* *WorldPhone Marine&Voyager:* input from Power Supply	2-wire RJ11 connector for telefax. Can be reconfigured for telephone	2-wire RJ11 connector for telephone, cordless base station or PABX	9-pin RS232 Hayes AT compatible port for 2.4 Kbps data communication, output to printer or software download	connection of coax cable from antenna

Figure 1.2 Telephone Unit connector panel

WorldPhone Portable

General

The WorldPhone Portable terminal consists of two main units housed in a lightweight and portable carrying case:

- The antenna and RF transceiver integrated into the lid.
- The Telephone Unit (and battery pack) that is detachable and rain resistant.

The WorldPhone uses a coax cable to link the two units together. The case is equipped with a handle for transport. The screw socket in the lid allows the antenna to be tripod mounted, or attached to a window using a suction fitting. The total weight of the WorldPhone is 2.7 kgs (including battery pack).

The **Telephone Unit** can easily be shifted for operation with any of the other WorldPhone antennas, *see "Introduction" in this chapter.*

Carrying handle/ antenna support

Case folded

Lid w/antenna and RF units

Antenna coax cable

Telephone Unit

Universal AC adapter
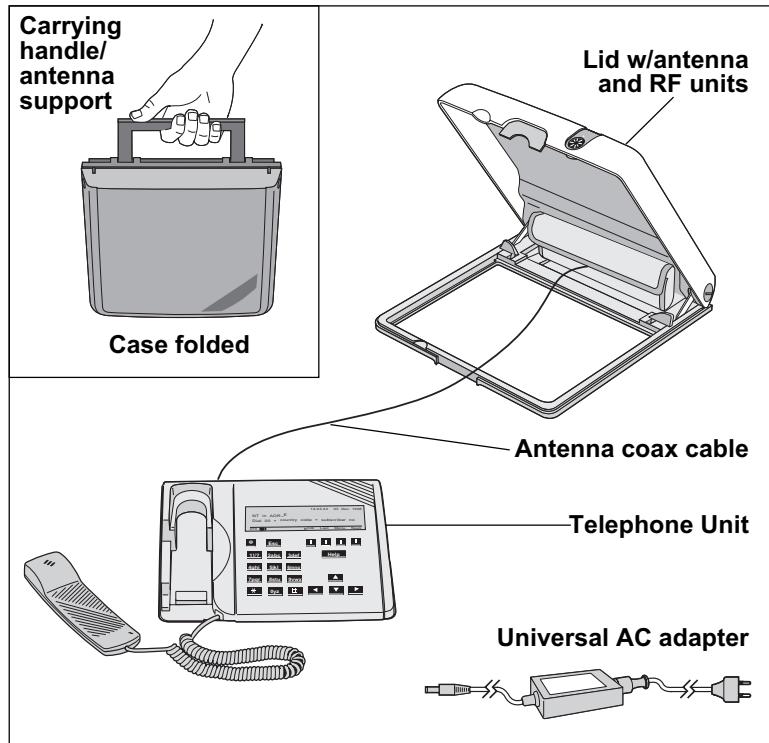
Figure 1.3 WorldPhone Portable, complete.

Internal battery

The battery indicator on the display indicates the internal charge level:

The amount of shading represents the current charge level.

A completely shaded indicator indicates a fully charged battery. As the battery charge level decreases the amount of shading on the battery indicator will also decrease.

A flashing battery indicator indicates that the battery level is low.

Figure 1.4 WorldPhone Portable, identification.

WorldPhone Portable cont'd

The WorldPhone turns off automatically once the battery has discharged, to avoid damaging the cells. It must now be powered from an external source for operation and recharging of the battery.
The WorldPhone may be connected to an AC source using the Universal AC Adapter, or directly to a 12-32 V rated DC source.

The battery is charged even if the WorldPhone is turned off.
The indicator shading increases as the battery re-charges.

For charging and replacement of the battery, see appendix C.

Warning! Problems with the transmission may occur when the battery charge level is low.
Avoid exposing the WorldPhone to extreme heat or cold. Very high or low temperatures reduce the battery capacity.
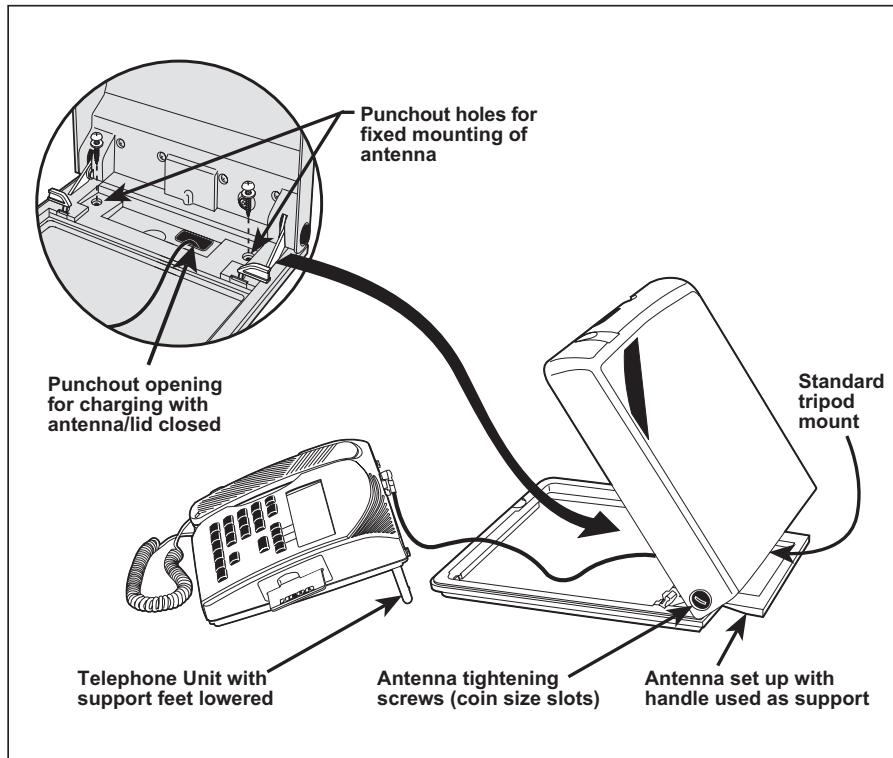
Figure 1.5 WorldPhone Portable connected up.

Setting up

1 Open the WorldPhone.
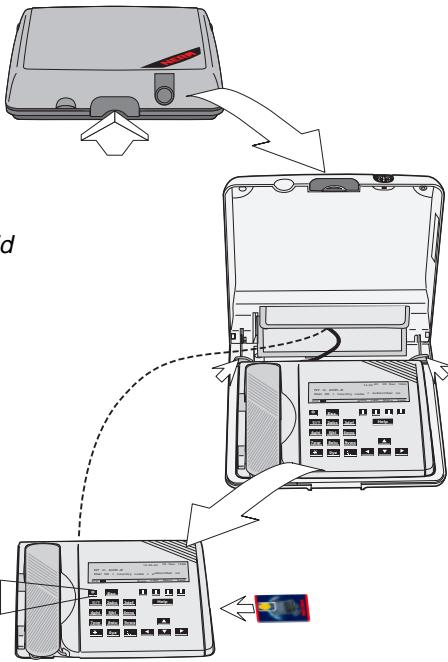
2 If needed, release the telephone and lift it out. Check that the antenna coax cable is properly connected. *Swing out the handle in the lid for antenna support. The coax cable permits the antenna to be placed up to 3 metres away from the Telephone Unit.*

3 Insert the SIM card (if SIM operated).

4 Press and hold the ON/OFF key for 2 seconds.

The display should light up.

5 Check for sufficient battery capacity.
If low, connect the WorldPhone for recharging from external source, *see **appendix C**.*

6a Enter the SIM PIN code, and press **Ok**:

If necessary, adjust display brightness:

```
            WorldPhone

▶SIM PIN: *******◂

  Press "Help" for an introduction.
470 ▭▷            ◀Del      Eng    Ok
```

*When selecting another display language,
Eng appears for easy restoring of English,
see "**Phone setup: Language setup and
Language reset**" in chapter 2. Operation.*
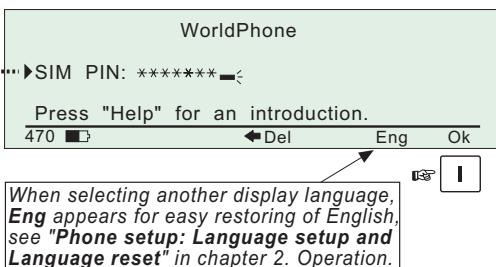
6b If no SIM card is inserted, the "Phone PIN" will be prompted for.
Default Phone PIN: 1 2 3 4 5 6

WorldPhone – Chapter 1. Getting Started **1.9**

7 During the satellite search, beep tones will be heard from the loudspeaker (provided the **Tone** is ON, *see next page*):

▬   ▪   ▪   ▪   ▪   ▪   ▪   ▪   slow intermittent tones when searching for **any satellite**.

▬▬▬▬▬▬▬▬▬▬▬▬ ▪ ▪ rapid intermittent tones when searching for a **specific satellite** *(faster when searching for a single satellite).*

8 To find the correct vertical angle to the satellite, try with the antenna adjusted to 60°, 30° or 0° as indicated.
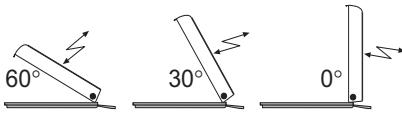
9 Aim the antenna/lid towards the estimated position of satellite with **free line of sight**.

Free line of sight to satellite
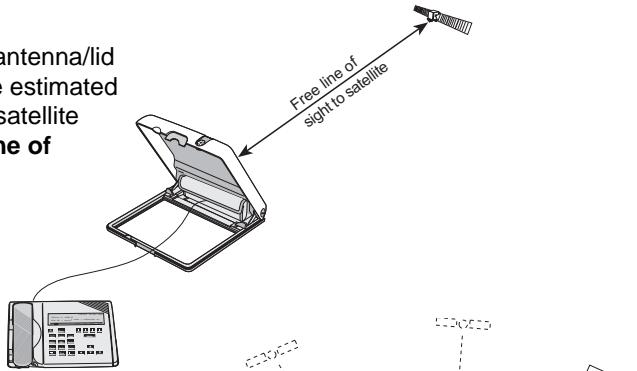
Or make a slow scan across the hemisphere.
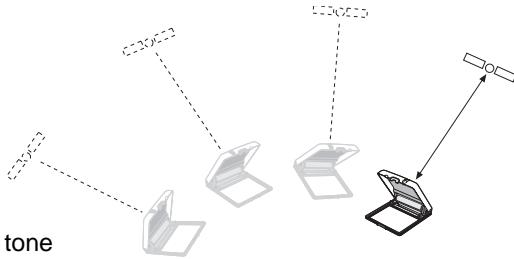
When receiving a satellite signal, a short tone will sound. If it is an Inmarsat satellite, a continuous tone will sound with varying frequency *(provided the **Tone** is ON, see next page)*.

*The WorldPhone always starts with **Tone off** and "**any satellite**" search. See step 10.*

When closing in on a satellite, turning the antenna/lid horizontally and adjusting its vertical angle, the tone should increase in frequency.

10 A shaded signal strength bar will appear in the display.
The longer the signal bar or higher the signal strength indicator value,
the better the signal quality. The bar becomes solid when the signal
strength value reaches 400.
The maximum marker indicates the highest signal strength achieved
during the current search.

Satellite search

Found AOR-E. Accept this satellite?

Maximum marker

Low → high signal strength

Volume▲▼

470 ▭   SIM   Mute   Seek   New   Ok

Signal strength indication

*Pressing **Mute** turns **OFF** the search tone.
(Mute↔Tone).*

*"Volume" indicator appears when the **Tone** is **ON**.
Adjust level with arrow keys.*

11 Pressing the **Seek** function key starts the search again.

New allows selec-
tion of a specific
satellite:

Scroll down to
desired satellite
and select:

☞   ▲ ▼

Sa   New search satellite

Found AOR-E.   All
     → AOR-W
     AOR-E
     POR
     ▼ IOR

470 ▭   SIM   Selct

*Pressing **Selct**
enters chosen satellite*   ☞ | |
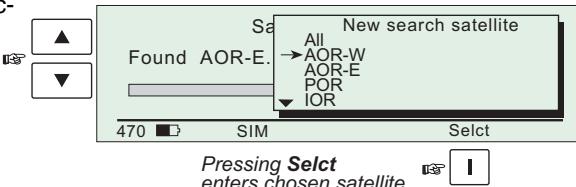
*Note! Searching for a **New** satellite
should be done under special circumstances only.
Searching for **any satellite** is the normal mode of operation (default).*

12 Pressing **Ok** initializes the system.

13 The equipment is
ready for use when the
Main window appears:

20 Sep 1998   15:20

Telenor in AOR–E

Dial 00 + country code + subscriber no

470 ▭   SIM   Book   Last   Menu   Seek

*Battery indicator
Replaced by **DC** symbol
when adapter power only*
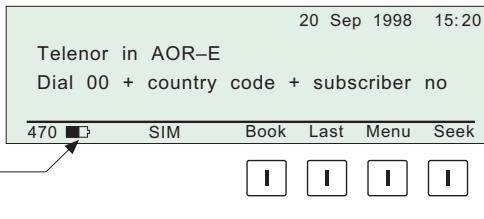
WorldPhone Provident

General

WorldPhone Provident comprises:

- **Outdoor Equipment – ODE**
  including fixed mounted antenna and RF transceiver.
- **Indoor Equipment – IDE**
  including Telephone Unit and Power Supply.

A single coax cable links the ODE and IDE.

For installation, see appendix B.

For operation of the Telephone Unit, see "WorldPhone Portable: Setting up" step 1 through 6.
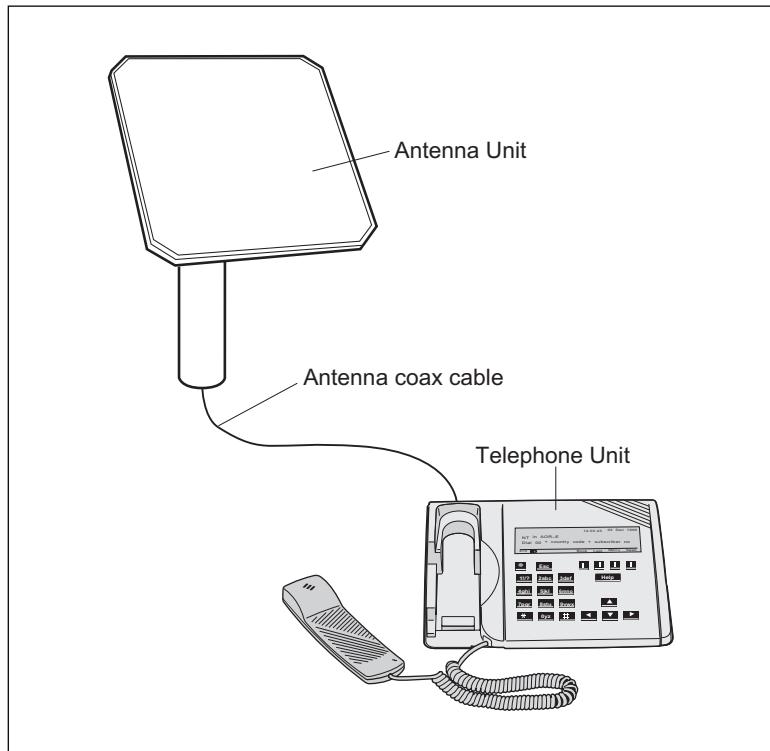
Figure 1.6 WorldPhone Provident terminal.

General

WorldPhone Marine comprises:

- **Above Deck Equipment – ADE**
  including stabilized antenna and RF transceiver.
- **Below Deck Equipment – BDE**
  including Telephone Unit and Power Supply.

A single coax cable links the ADE and BDE.

For installation, see appendix B.
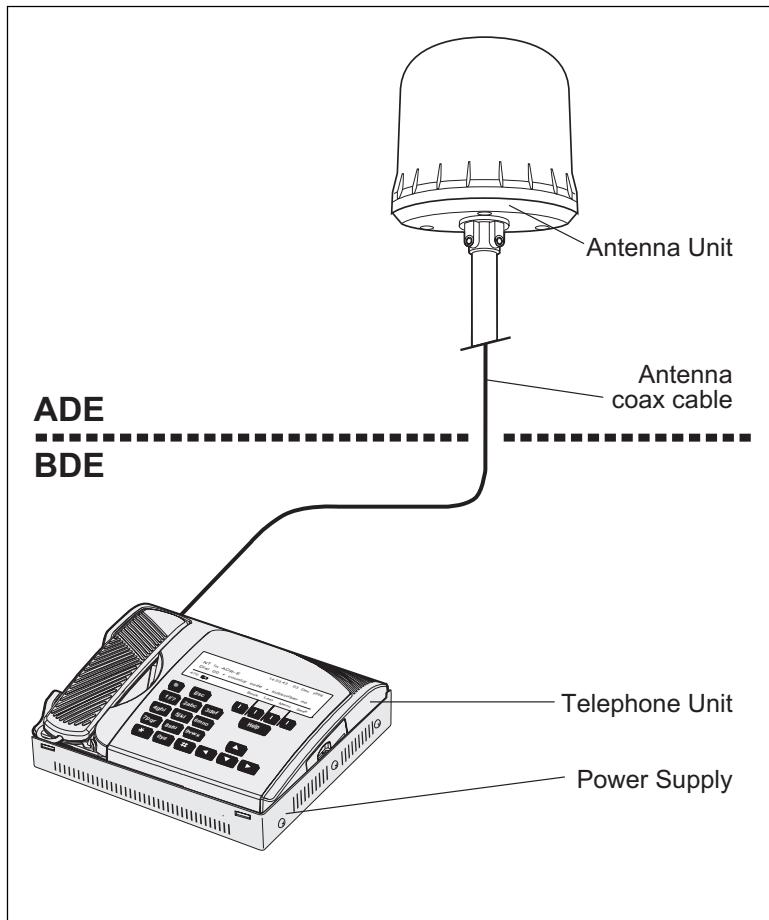
Figure 1.7 WorldPhone Marine terminal.

WorldPhone Marine cont'd

Setting up

1 Insert the SIM card (if SIM operated):

2 Switch ON
the power supply:

ON/OFF

☞
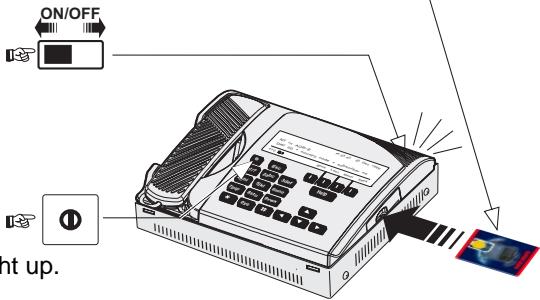
3 Press and hold the
telephone ON/OFF
key for 2 seconds: ☞ **⏻**

The display should light up.

4a Enter the SIM
PIN code, and
press **Ok**: ☞ [1₁/?] ·········▶

Adjust display
brightness: ☞ [▲]
[▼]

```
                    WorldPhone

▶ SIM  PIN: ******* ◂

   Press  "Help"  for  an  introduction.
470  DC                      ← Del        Eng        Ok
```
☞ [I]

*When selecting another display language,
Eng appears for easy restoring of English,
see "**Phone setup: Language setup and
Language reset**" in chapter 2. Operation.*
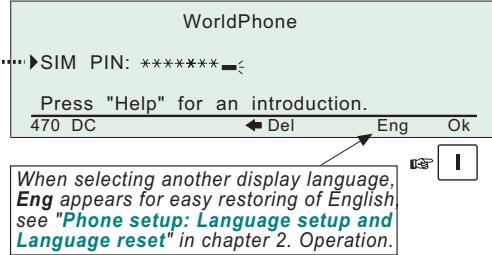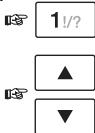
4b If no SIM card is inserted, the
"Phone PIN" will be prompted for.

5 A shaded signal strength bar will appear in the display.
The longer the signal bar or higher the signal strength indicator value,
the better the signal quality. The bar becomes solid when the signal
strength value reaches 400.
The maximum marker indicates the highest signal strength achieved
during the current search.

```
                    Satellite  search

          Found  AOR-E.  Accept  this  satellite?
```

Maximum marker

Low → high signal strength

Signal strength indication

```
470  DC        SIM          Tone   Seek   New   Ok
```
[I] [I] [I] [I]
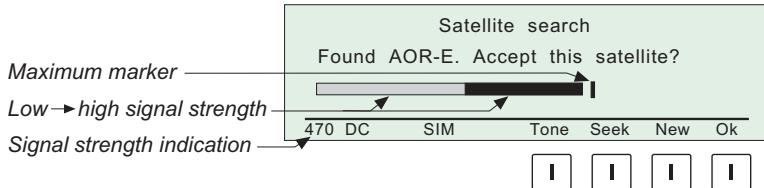
6 Pressing **Ok** initializes the system with the displayed satellite.

7 Pressing the **Seek** function key starts the search again.
New allows selection of a specific satellite:

Scroll down to
desired satellite
and select: ☞

▲

▼

```
                    Sa |     New search satellite
                       |   All
    Found AOR-E. | → AOR-W
                       |   AOR-E
                       |   POR
                     ▼ |   IOR
    470 DC     SIM                           Selct
```
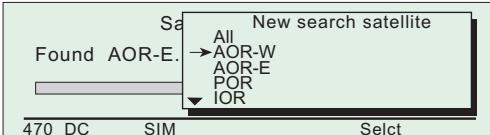
*Note! Searching
for a **New** satellite
should be done under
special circumstances only.*

*Pressing **Selct**   ☞ | I |
enters chosen satellite*

*Searching for **any satellite** is the normal mode of operation (default).*

8 The equipment is
ready for use when the
Main window appears:

```
                                    20 Sep 1998  15:20
    Telenor in AOR–E

    Dial 00 + country code + subscriber no

    470 DC     SIM       Book  Last  Menu  Seek
```

| I | | I | | I | | I |
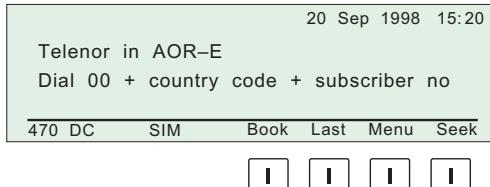
WorldPhone Voyager

General

The WorldPhone Voyager comprises:

- **Outdoor Equipment – ODE**
  including Antenna Unit and magnetic mounting bracket.
- **Indoor Equipment – IDE**
  including Telephone Unit and Power Supply.

A single coax cable links the ODE and IDE.

For installation, see appendix B.

Setting up

Apply the setting up and satellite search procedure described for
WorldPhone Marine. *See previous pages.*
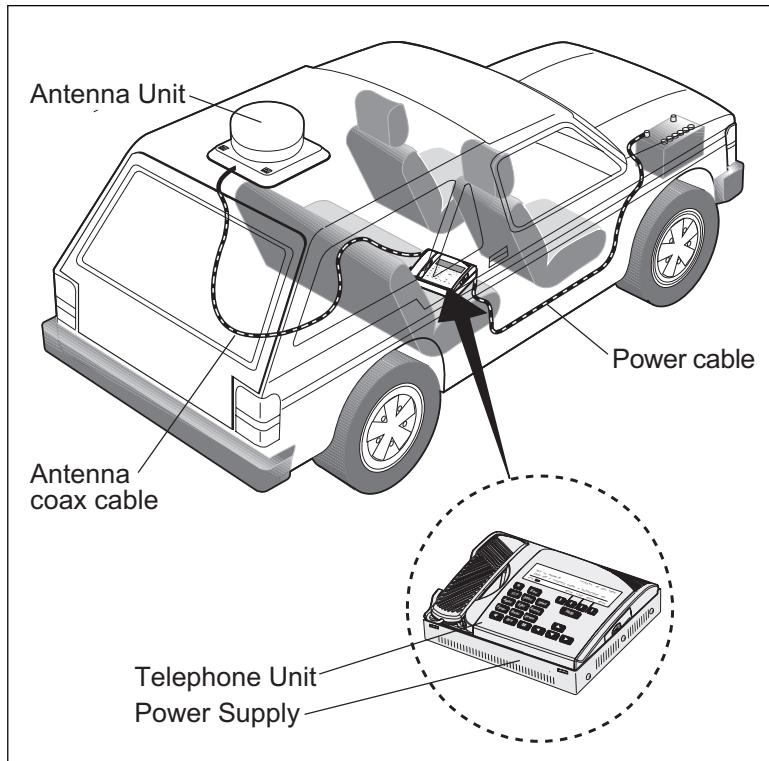
Figure 1.8 WorldPhone Voyager terminal.

OPERATION

The design and specifications of the
equipment may be changed without notice.

General

The display and all controls on the WorldPhone are accessible via the front telephone panel. *See figure 1.1.*

The light in the display and the screen picture may be timed for automatic switching off for power saving. Pressing any key turns the display on again. The display contrast can be altered using the arrow keys when the PIN window or main window appears. *See "Phone setup" for further details.*

Function keys

The text in the display shows the function currently assigned to each function key:

```
                                         20 Sep 1998   15:20
     Telenor  in  AOR–E
     Dial  00  +  country  code  +  subscriber  no

     470  ▭⊐        SIM     ▼Book   Last   Menu   Seek
```

| I | I | I | I |
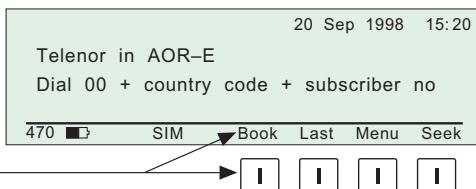
Help

Whenever needed, press the [Help] key for assistance.

Example with window above displayed:

```
    ▲To  make  a  call:
      Dial  00  +  country  code  +  subscriber
      number;  press  "Call"  and  wait  for
      answer.
    ▼(For  an  example,  press ▼ )
    470  ▭⊐                         Keys
```

Press **Keys** to go direct to the explanation ──☞ [I]
of the various tasks performed by the four function keys.

PIN code

The user is prompted for the 4-8 digit Personal Identification Number each time the WorldPhone is switched on:
*   SIM PIN? (with SIM card).
*   Phone PIN? (without SIM card).

Be aware that the PIN protection may have been disabled, see "User access" in this chapter.

Keying letters

The three letters on each number key are accessible when on display lines requiring letters. Press the desired key for the first letter, and continue rapid selection of following letters/numbers:

☞ [2 abc] [2 abc] [2 abc] [2 abc **à á â ã ä å æ ç**] [2 abc]

*For complete character map, see **appendix F**.*

▲ ▲ ▲ ▲ ▲

Variants of letters on the key

Making a call

Procedure

1 Dial 00 and the country code, followed by the subscriber number (max. 22 digits).

*For explanation of call numbers and list of country codes, see **appendix A**.*

Key in: ☞ **0**yz

> Number: 004767244700
>
> Net provider: Telenor
> Terrestrial network: 00
>
> ---
> 470 ▯ SIM ←Del Call Short

*See also "**Call via alternative Net service provider or terrestrial network**".*

☞ | I | I | I | I |

2 Pressing the ←**Del** function key deletes the digit to the left of cursor:

3 Pressing the **Call** function key sends the dialed number:

(or press the **#** *-key)*

4 If the subscriber is listed in the phone book, enter the short number in the **Number** field and press **Short** to make the call:

*The **Short** function key is only visible when less than 3 digits have been entered (max short number).*

5 Lift handset and wait for answer.
Handsfree mode with handset in place.

6 Pressing the **Esc** key restores number field (if edited), or reverts to main window.

7 Use up/down arrow keys to adjust **Volume** during the call. ☞ ▲ ▼

> Calling 004767244700
> via Telenor in AOR-E
>
> Status : Call setup
>   Handset   Volume▲▼
> ---
> 470 ▯ SIM ◀on Mute Menu Clear

☞ | I | I | I | I |

Making a call

*The **call duration** is displayed when connected.*

```
Calling  004767244700                    00:07:15
via Telenor in AOR-E

Status :  Connected
          Handset
                              Volume▲▼
470 ▮▯      SIM       ◀ on  Mute  Menu  Clear
```
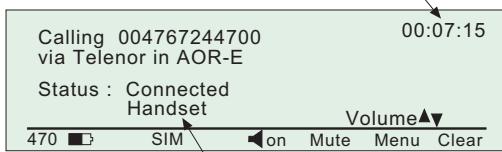
*For **handsfree** mode,*   Alt.: Handsfree,   ☞ | I | | I | | I | | I |
*and use of **loudspeaker***   Loudspeaker
*etc, see "**Modes of operation**".*

8 Pressing **Menu** displays IMN numbers:

```
                  IMN  numbers

Handset: 762420510
Phone:   762420511
Fax:     762420512
Data:    762420513
(ESC  returns  to  previous  window.)
470 ▮▯          SIM                       Book
```
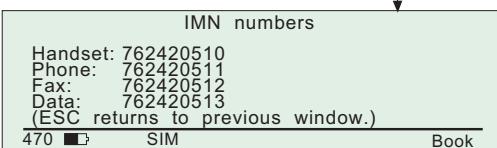
Book then opens phone book, allowing selection of subscriber: ☞ ▲ ▼   ☞ | I |

```
                  Phone  book
        Nera  SatCom  AS
102▶Nera  Ltd  Croydon              ▶


470 ▮▯          SIM              New    Edit
```
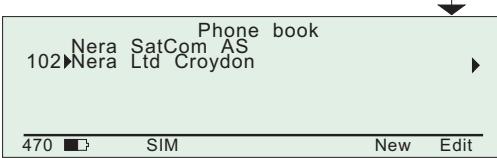
Edit allows editing subscriber data.   ☞ | I | | I |

New allows entering new data:

*See **Phonebook***

9 To disconnect the call, put down the handset.
*In **Handsfree** mode, press **Clear**.*

To call the WorldPhone

Dial the international prefix (normally 00) followed by
87X IMN number, f.ex. 00 **871** 762420510.

↳ *Depends on which satellite the WorldPhone is currently using:*

1 – **AOR-E**   (Atlantic Ocean Region East)
2 – **POR**   (Pacific Ocean Region)
3 – **IOR**   (Indian Ocean Region)
4 – **AOR-W**   (Atlantic Ocean Region West)

*Note! Some Net service providers support the common Ocean Region access no. **870**, which connects the call to the dialed WorldPhone regardless of the Ocean Region the user currently communicates through.*

Modes of operation

Call with handset lifted

The WorldPhone switches to **handsfree** mode if the handset is put down with the loudspeaker **on** (loudspeaker mode).

When in handset mode, placing handset down terminates the call.

Calling 004767244700
via Telenor in AOR-E

Status : Call setup
          Handset
                              Volume▲▼
470 ▬▭   SIM   ◄ on Mute Menu Clear

Loudspeaker when monitoring

Loudspeaker ◄**on / ◄off**

Microphone muted/active (**Mute/Mic**)

Pressing **Clear** terminates call
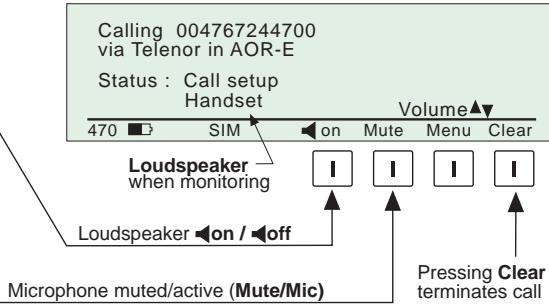
Handsfree call mode

Handset in place

Calling 004767244700
via Telenor in AOR-E

Status : Call setup
          Handsfree
                              Volume▲▼
470 ▬▭   SIM   Mute Menu Clear

Loudspeaker permanently **On**

Microphone muted/active (**Mute/Mic**)

Pressing **Clear** terminates call
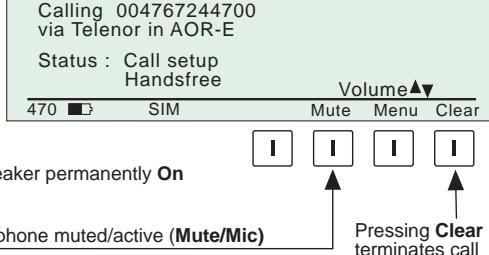
Call via an alternative Net service provider or terrestrial network

Although default settings normally can be used, a different Net service provider, or an other terrestrial network, may be selected as follows:

Alternative Net service provider:

Note! The WorldPhone must have been commissioned by the selected provider; the call may otherwise be rejected.

1 Dial subscriber number.

2 Scroll down to **Net provider** and key in reference number, or press **right arrow** to display list of accessible Net service providers:

3 Scroll up/down to wanted Net:
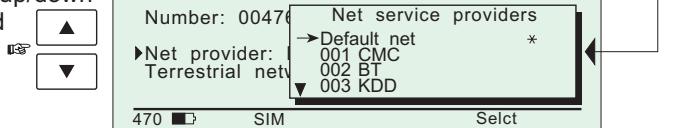
4 and press **Selct**:

Alternative terrestrial network:

1 Scroll down to **terrestrial network** and key in reference number.

NB! A Net service provider may also be specified by starting the telephone number with its reference code, e.g. BT:

| 2abc | * | 0yz | 0yz | 4ghi | 7pqr | 6mno | 7pqr | 2abc | 4ghi | 4ghi | 7pqr | 0yz | 0yz | # |

Making a call cont'd

Sending NIMS message

```
                              20  Sep  1998   15:20

   Telenor  in  AOR–E

   Dial  00  +  country  code  +  subscriber  no

  470  ⬛▯ ✉   SIM        Book   Last   Menu   Seek
```

*Press **Menu*** ☞
and then **Mail**
to open Mail manager.

```
                  Function  menu

  001▶Set  default  Net  provider              ▶
      Set  access  level
      Data/printer  port  setup
      Phone  setup  menu
      Traffic  log
  470  ⬛▯ ✉   SIM        Lock   Mail   Selct   Quit
```

☞

Note!
*Sending and receiving
NIMS messages is
only possible through
service providers that
support the NIMS
service.*

Example:

*You have received 6 messages,
3 are not read*

One message is not sent

*Pressing **In** opens In Box,
see **Receiving a call:
Receiving NIMS message.***

```
                  Mail  manager

   In  Box :   6  mail  3  unread

   Out  Box :  2  mail  1  unsent

   You  have  new  mail
  470  ⬛▯ ✉   SIM          In   Out   Setup   Quit
```

☞

*Indicates that the
message is not yet **Sent***

```
                    Out  Box

    001▶* Have  a  nice  day               ▶
    002    Happy   Birthday


  470  ⬛▯ ✉   SIM        Remov Edit   New   Print
```

☞ ▼   ☞ ▶   message details

Remov *erases
selected message.* ☞

Print *outputs message to
printer. Appears only if a
printer is enabled, see
"**Data/printer port setup**".*

See next page

```
              Setup  for  sending  mail

    User  name :    Kari  Nordmann

    NIMS  center :  004767244445

  470  ⬛▯ ✉   SIM           Edit          Ok
```

*Pressing **Edit** changes
the function keys to allow
modifications:* ☞

☞ **Ok** *reverts to
mail manager*

ABC/abc *selects
lower/uppercase letters.*

Save *stores changes.*

```
  ◀Del  ABC  abc  Save
```

Making a call cont'd
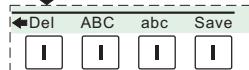
Sending NIMS message cont'd

▶

Note!
The @ character appears
after z on the 0yz *-key.*

```
          Out  Box  message  details
     To:     hal@nera.no
   ◀ Subject:  Have  a  nice  day

     Status :  Unsent
   ▼
   470 ▬ ⊠    SIM              Edit        Ok
```

☞ ▼

☞ | ☞ |

New
| ▶

```
   ▶ To:       ◄
     Subject :



   470 ▬ ⊠    SIM         ◀Del   abc  CR/LF  Send
```

☞ | | | |

Edit
| ▶

```
     To :       hal @ nera. no ◄
     Subject :  Have  a  nice  day ! ! !
     Hello,  my  friend !

     How  are  you ?
     Here  in  Norway  the  sun  is  shining  and
   ▼ this  weekend  I  am  going  skiing  in  the
   470 ▬ ⊠    SIM         ◀Del   abc  CR/LF  Send
```

☞ | | | |

abc/ABC toggles between
lowercase and uppercase letters.

CR/LF provides carriage return
or line feed in the text

Send forwards mail

Note!
The IMN number of the
NIMS service must have
been entered into the
WorldPhone to allow
communication, see
Advanced functions:
Information available.

```
              Send  details


   ▶ NIMS  center :  004767244445


   470 ▬ ⊠    SIM         ◀Del              Ok
```

☞ | ☞ |

```
             Sending  message

     Calling  NIMS  center
     at  004767244445

   ▶ Submitting  message
   470 ▬ ⊠    SIM                        Abort
```

Status information,
changes during call.

Pressing **Abort** *stops NIMS*
call after confirmation.

☞ |

Call from telephone

General

A telephone is used for basic telephone calls. Control of functions and other facilities must be done from the WorldPhone.

Call through default Net service provider

⓪⓪④⑦⑥⑦②④④⑦⓪⓪⌗ routes the call via the default Net service provider for the satellite (Ocean Region) you are using.

Call through selected Net service provider

④✳⓪⓪④⑦⑥⑦②④④⑦⓪⓪⌗ routes the call via the Net service provider Telenor (4) in Norway.

Last number redialing

⓪⌗ retransmits the last number.

Last number redialing through selected Net service provider

④✳⓪⌗ retransmits the last number via the selected Net service provider (Telenor=4).

Short number dialing (prefix 23)

②③①⓪⑤⌗ fetches and sends the telephone number stored on the SIM card under short number 105.

Short number dialing (prefix 23) through selected Net service provider

④✳②③①⓪⑤⌗ fetches and sends the telephone number stored under short number 105 via the selected Net service provider (Telenor=4).

Call through selected Net service provider and terrestrial network

Dialing via a terrestrial network is only possible using a selected Net service provider.

The number may be in the range 0 to 127.

Example of a call through selected Net, e.g. Telenor, and terrestrial network 1:

4 ✳ 1 ✳ 0 0 4 7 6 7 2 4 4 7 0 0 #
  └─ *NETWORK*
└──── *NET PROVIDER*

Service calls

Special information services are accessible with 2-digit service address code. *See appendix A.*

Example of obtaining assistance from the International Operator:

Dial: 1 1 #

Special calls

Telephone call

```
Incoming  call.

Status :  Ringing

                                    Volume▲▼
470  ▭▯      SIM       Answr            MuteR
```

*Pressing **Answr** ☞* | | *Pressing ☞* | |
connects call   *MuteR turns*
(handsfree mode)   *off ringing signal*

Call duration

```
                                    00:04:15
Incoming  call.

Status :  Connected
          Handsfree
                                    Volume▲▼
470  ▭▯      SIM      ◄ on  Mute  Menu  Clear
```

*Lifting handset
connects call
(handset mode)*

Loudspeaker ☞ | | | | | | | |
◄on / ◄off

*Microphone muted/
active (**Mute/Mic**)*

*Pressing **Clear**
terminates call*

Fax call (and 2-wire telephone call)

*See also
chapter 3. Telefax Service*

```
                              20  Sep  1998   15:20

Telenor  in  AOR–E

Busy  with  call


470  ▭▯      SIM       Book  Last  Menu  Seek
```

Data call

*See also
chapter 4. Data Service*

```
Data  call  in  progress  –  Non–ARQ

Received  bytes:        12111
Transmitted  bytes:    1433333

470  ▭▯      SIM            Keep / Hide   Clear
```

*When in **Keep** mode, the
data call window willl remain
even if the call is cleared.
Pressing **Hide** or **Esc**
removes the window
Default: **Hide** mode.*

☞ | | | |

*Pressing **Clear**
terminates call*

Receiving a call cont'd

Receiving NIMS message

```
                              20 Sep 1998   15:20

  Telenor in AOR–E

  Dial 00 + country code + subscriber no

 470  ▯◗ ☒   SIM       Book  Last  Menu  Seek
```

*Flashing symbol indicates that **NIMS message** or **mail alert** has been received.*

☞ **|** *Press **Menu** and then **Mail** to open mail manager.*

```
                Function  menu
 001▶Set  default  Net  provider           ▶
     Set  access  level
     Data/printer  port  setup
     Phone  setup  menu
     Traffic  log
 470 ▮◗ ☒   SIM       Lock  Mail  Selct  Quit
```

☞ **|**

```
                Mail  manager

  In  Box :   6   mail   3  unread

  Out  Box : 2   mail   1  unsent

  You  have  new  mail
 470 ▮◗ ☒   SIM        In   Out  Setup  Quit
```

☞ **|** **|** **|** **|**

*See "**Making a call: sending NIMS message**".*

*Indicates that the message is not yet **Read***

```
                  In  Box
    001▶* Hello !                           ▶
    002    Voice  mailbox  message
    003    Fax  mailbox  message
    004  * Mail  me !
   ▼005  * Information  from  Service  Provider
 470 ▮◗ ☒   SIM       Print  Remov  Read  Get
```

☞ **▼**

☞ **▶**

Print *outputs message to printer. Appears only if a printer is enabled, see "**Data/printer port setup**".*

Remov *erases message*

☞ **|** **|** **|** **|**

See next page

```
                In  Box  message  details
    Type:      NIMS
  ◀ From:      Knut  Knutsen
    Sent:      03 Jan 1998 15:57
    Arrived:   03 Jan 1998 15:58
   ▼Status :   Unread
 470 ▮◗ ☒   SIM       Read            Ok
```

☞ **▼**

☞ **|** ☞ **|**

*Ok reverts to **In Box***

See next page

Receiving a call cont'd

Receiving NIMS message cont'd

Get
[I]

Get calls the NIMS server
to read out stored NIMS
messages.

```
                 Get   new   mail

 ▶NIMS  center :  004767244445 ◀

 470  ▭▯ ☒   SIM        ◀ Del              Ok
```

*Modify the server
number if required:* ☞ [I]   ☞ [I]

```
            Checking   for   new   mail

 Calling  NIMS  center
 at  004767244445

 Dialing  the  NIMS  center
 470  ▭▯ ☒   SIM                       Abort
```

☞ [I]

Read
[I]   *Readout example: 001 Hello !*

```
 Date:  03  Jan  1998  15 : 57
 From :  Knut  Knutsen
 Reply - to : kk@nera.com
 Subject : Hello !

 How  are  you  my  friend ?
 ▼Here  in  Norway  the  sun  is  shining  and
 470  ▭▯ ☒   SIM     Reply Remov Next   Ok
```

☞ [▼]

Remov erases
message   ☞ [I] [I] [I] [I]

Next displays next message

Ok reverts to **In Box**

```
 ▶To :        kk@nera.com ◀
  Subject :  Re : Hello


 470  ▭▯ ☒   SIM   ◀ Del  abc  CR/LF  Send
```

☞ [I] [I] [I] [I]

abc/ABC toggles between lower and uppercase letters
CR/LF provides carriage return or line feed in the text
Send returns mail, see "**Making a call: sending NIMS message**".

Read
[I]   *Readout example: 002 Voice mailbox message*

```
                 Mailbox   access

 Voice  mail  at  Telenor

 Call  to :  57 ◀
 470  ▭▯ ☒   SIM   ◀ Del  Remov  Call   Ok
```

Remov erases alert   ☞ [I] [I] [I] [I]
message

Call dials the mailbox to read out the voice message

Ok reverts to **In Box**

General

The WorldPhone provides the following functions:

```
                                      20  Sep  1998    15:20

    Telenor  in  AOR–E
    Dial  00  +  country  code  +  subscriber  no


470  ▭▯      SIM      Book   Last   Menu   Seek
```

☞ | | | | | | | |

Book see "*Phone book*"

Last see "*Last number redialing*"

Seek see "*Setting up*" in chapter 1. Getting started

Menu scroll up/down to select function:
or key in reference number for direct selection.

▲ ▼

```
                                   Function  menu

001▶Set  default  Net  provider              ▶
002  Set  access  level
003  Data/printer  port  setup
004  Phone  setup  menu
006  Traffic  log
008  Precharge                        Mail   Selct   Quit
009  Advanced  functions
```

☞ | |

See also overview of functions on next page

Ref.	Function	Features
001	**Set default Net provider**	*Allows changing Net service provider and terrestrial network.* *See "Selecting default Net service provider".*
002	**Set access level**	*Allows shifting between* *• user level, and* *• owner / CHV2 level (non-SIM / SIM operation), changing phone / SIM PIN code and owner / CHV2 password.* *See "User access".*
003	**Data/printer port setup**	*Enables port for connection of printer or PC, and sets transfer bit rate.* *See "Data/printer port setup".*
004	**Phone setup menu**	*Sets display backlight and contrast, receive volume, system clock, key lock code, language and mailbox access numbers.* *See "Phone setup".*
006	**Traffic log**	*Logs outgoing calls and provides detailed printout. See "Traffic log".*
008	**Precharge**	*Allows preprogramming of total call duration. See "Precharge".*
009	**Advanced functions**	*See overview on next page.*

Functions

Functions cont'd

Overview of menu functions

```
                            20 Jan 1998   15:20

   Telenor in AOR-E
   Dial 00 + country code + subscriber no
   _____
   470 ▬▭        SIM      Book  Last  Menu  Seek
```

☞ Ⅰ

Function menu
001 **Set default Net provider**
002 **Set access level**
003 **Data/printer port setup**
004 **Phone setup menu**
★★ 006 **Traffic log**
★★ 008 **Precharge**
009 **Advanced functions**

4 – Phone setup menu
001 Backlight control
002 Contrast control
003 Volume control
004 Set system clock
005 Key lock code
006 Language setup
007 Mailbox access numbers
008 Call charge setup

9 – Advanced functions menu
001 Access control
006 Satellite setup
007 Configuration
008 Information available
★ 009 Install

91 – Access control menu
★★ 001 Restrict dial
★★ 002 Access code
★★ 003 Restrict SIM usage

97 – Configuration menu
★★ 001 Port configuration
★★ 002 Net service providers
003 Power conservation
004 Set diagnostics
SIM+ 005 Set preferred Nets
SIM+ 006 Set allowed Nets
SIM+ 007 Set S/A preferred Nets
SIM+ 008 Set S/A allowed Nets
★★ 009 Charge tone

98 – Information available
★★/SIM+ 001 IMN numbers
002 Misc. version Id information
★ 009 Network status information

99 – Installation menu
★ 001 Paid functions
★ 002 Phone name setup

★ *Only appears in OWNER level (non-SIM operation).*

★★ *Only editable in OWNER level (non-SIM operation).*

SIM Only accessible with SIM card.

SIM+ May be restricted to higher SIM levels.

Last number redialing

General

The last **10 numbers** called are stored in the WorldPhone memory or on the SIM card. Each number may comprise up to **22 digits**.
If the number is already stored in the phone book, the subscriber's name appears in the list.

Any extra telephone or fax can only redial its own most recent number dialed.

The last used number list stored on the SIM card replaces that of the phone when inserting the card. (It is restored when removing the SIM).

Redialing:

1 Press the **Last** function key to open the last number list window:

```
                                    20 Jun 1998   15:20
  Telenor in AOR–E
  Dial 00 + country code + subscriber no

  470 ▣    SIM        Book   Last   Menu   Seek
```

☞ |
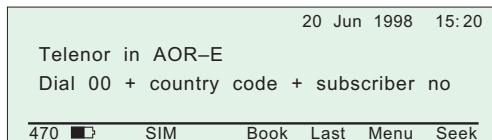
2 Scroll up/down to the wanted number: ☞ ▲ ▼

3 **Call** sends the selected number:

```
                Last used number list
  001▶ 00441737648800      Nera Ltd Redhill
       004766843120
       004767244700        Nera SatCom AS

  470 ▣    SIM       Apnd   Call   Erase   Save
```

☞ | | | | ✆

Call sends the selected number
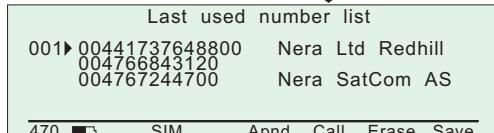
4 **Save** copies the number to the phone book. Name will be prompted.

5 **Erase** deletes **all** entries in Last used number list.

6 **Apnd** permits modifying selected number before making the **Call**: ☞ ▼

```
  ▶Number: 004767244700▬
  ▶Net provider: Telenor ▬
  ▶Terrestrial network: 00

  470 ▣    SIM      ◀Del    Call
```

☞ | | ✆
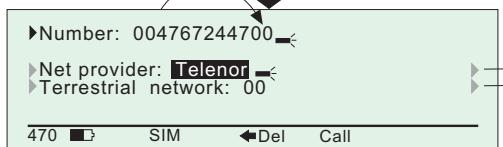
Modify using Del and press Call key to send it.

7 **Del** deletes the digit to the left of cursor:

8 **Call** sends the modified number:

*Note! To call via another net or network, see "**Making a call: Call via an alternative Net service provider or terrestrial network**".*
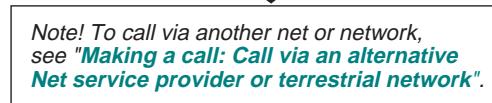
General

The following may be stored for abbreviated dialing:

- **99 entries** with names of up to **29 characters** in the WorldPhone.
- Up to **100 entries** (no.100 and up) with names of up to **10 characters** on the SIM card (varies with type).

The list is sorted by name. The SIM card entries and "phone" entries merge when the card is inserted.

Abbreviated dialing

1 Press the **Book** function key to open the phone book:

```
                                    20 Sep 1998   15:20
  Telenor in AOR-E
  Dial 00 + country code + subscriber no

  470 ▭◻        SIM      Book  Last  Menu  Seek
```
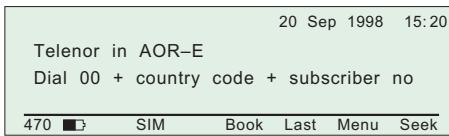
2 Scroll up/down or search for first letter(s) of subscriber name: ▲ ▼

```
                        Phone book
              Nera SatCom AS
  102▶Nera Ltd Redhill                              ▶

  470 ▭◻        SIM      Apnd  Call  New   Edit
```

3 **Call** sends the selected number:

Sends selected telephone number ☞ | I |
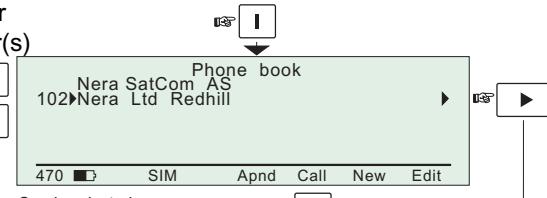
Short number 100 and up when stored on SIM card

4 **Right arrow** displays all data:

```
  ▲
  Name  : Nera Ltd Redhill
  Number: 00441737648800
  ◀Net provider: Default Net
  Terrestrial network: 00
  ▼                              no. (SIM): 102
  470 ▭◻        SIM      Apnd  Call  New   Edit
```

☞ | I | | I |☜| I |☜ *See next page*

5 **Apnd** opens the entry window for modification before making a **Call**:

```
  ▶Number: 004767244700◄

  Net provider: Telenor
  Terrestrial network: 00

  470 ▭◻        SIM    ◀Del   Call
```

☞ | I |
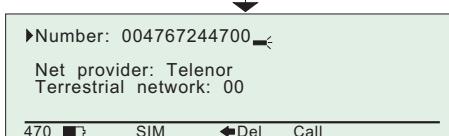
*Modify data using **Del** and press **Call** key to send it.*

Editing entry

6 **New** opens new
entry window:

7 **Edit** opens exis-
ting entry window.

```
                  New entry in Phone book
 ▶Name   :  ◄
  Number :
  Net provider:  Default Net
  Terrestrial network: 00
                                    no. (SIM): 102
 470 ▭▷      SIM       ◀Del              Save
```

8 **Del** deletes the
digit to left of cursor.

9 **Save** stores
phone book entry.

10 **Remov** deletes
phone book entry.

```
                  Edit mode in Phone book
 ▶Name   : Nera SatCom AS ◄
  Number : 004767244700
  Net provider: Default Net
  Terrestrial network: 00
                                       no. : 4
 470 ▭▷      SIM     ◀Del Remov  New  Save
```

Copying entry from f.ex. non-SIM book to SIM book

11 Press **New** with
entry in Edit mode.

The entry is assigned
the first free short
number on the SIM
card.

```
                  Edit mode in Phone book
 ▶Name   : Nera SatCom AS ◄
  Number : 004767244700
  Net provider: Default Net
  Terrestrial network: 00
                                    no. (SIM): 102
 470 ▭▷      SIM     ◀Del Remov  New  Save
```

New Edit

Phone book cont'd
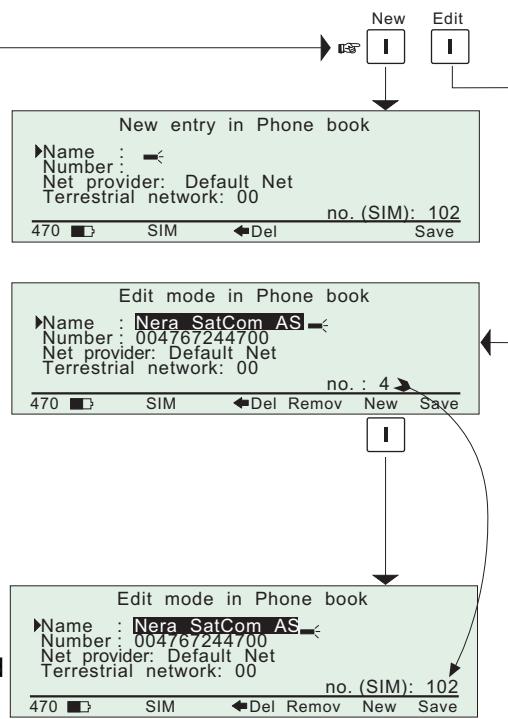
General

The key lock function prevents unauthorized use when the WorldPhone is on, but still allows reception of incoming calls.

When the lock is set no dial tone is produced, and PC AT commands are unavailable.

Entering a login password (Phone PIN / SIM PIN) will still unlock the phone. *(If Phone PIN / SIM PIN is disabled, turning power off and then on will not unlock the phone.)*

The facility is only accessible when the WorldPhone is restricted for use with a **specific SIM**, or with **no SIM**. *See Advanced functions: Access control.*

To initiate the key lock and enter or change the unlock code, see Phone setup: setting key lock.

Locking

Menu
☞ **I**

1 Press the **Menu** function key:

```
                         Function  menu
001▶Set  default  Net  provider              ▶
    Set  access  level
    Data/printer  port  setup
    Phone  setup  menu
 ▼  Traffic  log
 470  ▪▫     SIM        Lock  Mail  Selct  Quit
```

and then **Lock**:

☞ **I**

A warning is displayed in the main window:

```
                              20  Sep  1998   15:20

 Telenor  in  AOR–E

 Phone  locked,  incoming  calls  only.

 470  ▪▫     SIM                    Open  Seek
```

☞ **I**

1 – 6 digits
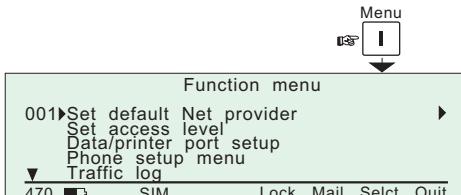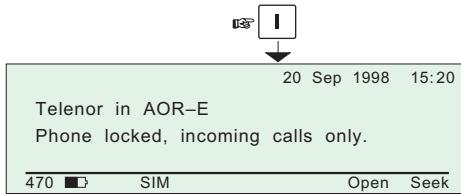
Unlocking

2 Press **Open** and enter the unlock code:

```
                      Open  telephone

 ▶Enter  unlock  code:  *****◄

 470  ▪▫     SIM        ◀Del             Ok
```

☞ **I**
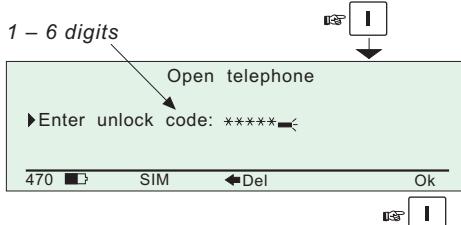
3 Pressing **OK** opens the normal main window:

```
                              20  Sep  1998   15:20

 Telenor  in  AOR–E

 Dial  00  +  country  code  +  subscriber  no

 470  ▪▫     SIM     Book  Last  Menu  Seek
```

Key lock
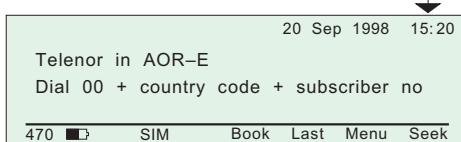
General

The default Inmarsat Net service provider (ISP) for a satellite (Ocean Region) is automatically used if the user does not select another one when making a call.

When using SIM card, selection of an ISP is restricted to one of the allowed Net service providers!

When the Restricted Net function is enabled, and with some SIM cards, selection of default Net service provider is not possible. The entry "001 Set default Net provider" will then not appear in the Function menu.

Setting default Net service provider

1 Press the **Menu** function key:

```
                              20 Sep 1998   15:20

  Telenor  in  AOR–E

  Dial  00  +  country  code  +  subscriber  no

  470  ▫▫▫      SIM      Book  Last  Menu  Seek
```

☞ **I**
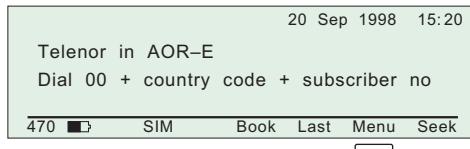
2 **Selct** or **right arrow** opens **Set default Net provider** window:

```
                   Function  menu

  001▸Set  default  Net  provider            ▸
      Set  access  level
      Data/printer  port  setup
      Phone  setup  menu
      Traffic  log
  470  ▫▫▫      SIM      Lock  Mail  Selct  Quit
```

☞ **▶**
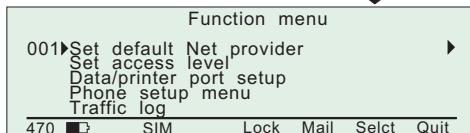
3 Key in Net service provider code, or press **right arrow** to display list of available Nets:

```
      1 – Set  default  Net  provider
  Satellite : AOR–E
  ▸Default Net: KDD ___
  ▸Terrestrial  network: `00
  470  ▫▫▫      SIM      ◀ Del            Save
```

☞ **▶**

☞ **I**

4 Scroll up/down to select Net: ☞ ▲ ▼

```
      1 – Set        Net  service  providers
  Satellite : AOR   →001 CMC
                     002 BT
  ▸Default Net: K    003 KDD
  Terrestrial netw   004 Telenor
  470  ▫▫▫      SIM                      Selct
```
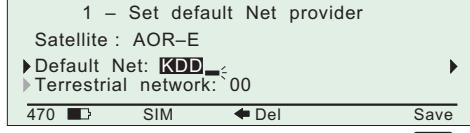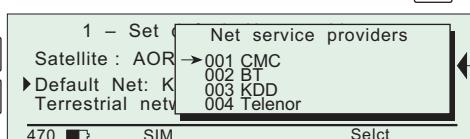
5 **Selct** enters the chosen Net:

☞ **I**

6 Return to step 3, scroll down and key in Terrestrial network code.

7 **Save** stores the selected Net service provider and Terrestrial network as default.

Selecting default Net service provider

General

The WorldPhone user program is accessible from two levels:

*   **USER LEVEL** – accessed by Phone PIN or SIM PIN.

> *Note! If the Phone PIN is accidentally lost, it is possible to reset the*
> *user's password to default by logging in as owner:*
>
> "Phone PIN: ✳ + owner's password"
>
> *(Resetting is not possible on SIM card.)*

*   **CHV2 LEVEL / OWNER LEVEL** – accessed by CHV2 or owner
    level passwords. With a SIM card inserted, the password allows
    access to **CHV2 level SIM** functions. Without a SIM card the
    password allows access to **owner level** phone resident functions.

Warning!
To prevent misuse, passwords other than default must be entered
before putting the WorldPhone in operation.

User level / changing PIN code (SIM or Phone PIN):

Menu
☞ ⎢ I ⎥

1 Press the **Menu** function key
and scroll down to **Set**
access level: ☞ ⎢ ▼ ⎥

```
                    Function  menu
            Set default  Net provider
002▶Set  access  level                        ▶        ☞  ▶
    Data/printer  port setup
    Phone  setup  menu
    Traffic  log
    Precharge
470 ▭     SIM          Lock    Mail  Selct  Quit
```

2 Selct or **right**
arrow opens the
Set access level
window:

```
              2 – Set access level
▶Access  level :  User level ▬
470 ▭     SIM                Edit  Owner   Ok
```

◀

Visible in non-SIM
mode only
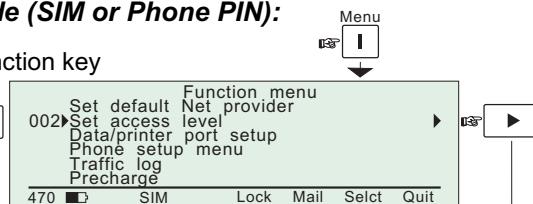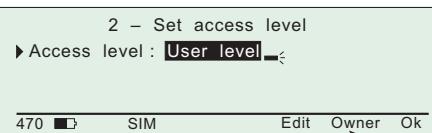
3 Edit opens the
PIN code window:

☞ ⎢ I ⎥
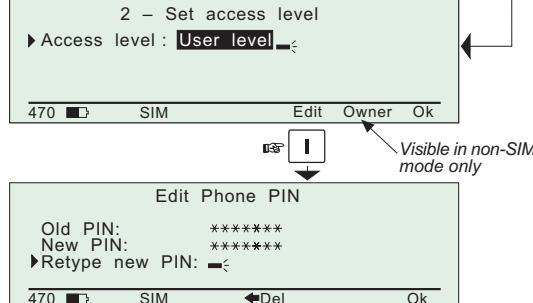
4 Key in:
*   Current PIN code
*   New PIN code
*   Retype to confirm

```
              Edit  Phone  PIN

    Old  PIN:        *******
    New  PIN:        *******
▶Retype  new  PIN: ▬
470 ▭     SIM           ◀Del          Ok
```

Press **Ok** following
each entry, and to
store new PIN code:

Pressing Ok without entering any   ☞ ⎢ I ⎥
numbers for New PIN and Retype new
PIN disables SIM PIN/Phone PIN.

NB! "Old" PIN code must be entered
to reactivate the SIM PIN/Phone PIN.

To shift to CHV2/OWNER level and change password,

User access *(side tab)*

Shifting to CHV2 level / changing password:
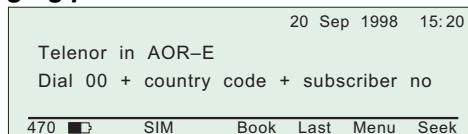
1 Press the **Menu** function key:

```
                                              20 Sep 1998   15:20

   Telenor in AOR–E

   Dial 00 + country code + subscriber no

470 ▭      SIM       Book  Last  Menu  Seek
```

☞ **I**

2 Scroll down to **Set access level**:   ☞ **▼**

```
                           Function menu
            Set default Net provider
    002▸Set access level                              ▸  ☞ ▶
            Data/printer port setup
            Phone setup menu
            Traffic log
            Precharge
470 ▭      SIM            Lock  Mail  Selct  Quit
```

3 **Selct** or **right arrow** opens the Set access level window:

```
                 2 – Set access level
   ▸ Access level: User level ▬⸜


470 ▭      SIM                  Edit         Ok
```
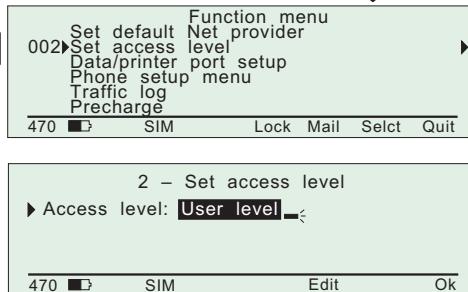
4 Key in **2002** to open the window for entering password:

```
                 2 – Set access level
    Access level: CHV2 level
   ▸Password: *******▬⸜

470 ▭      SIM        ←Del                    Ok
```

5 Key in password. Pressing **OK** activates the **CHV2 level**:   ☞ **I**

Changing password:

```
                 2 – Set access level
   ▸ Access level: CHV2 level ▬⸜


470 ▭      SIM            Edit  User  Ok
```

6 Open set access level window again:

☞ **I** **I**
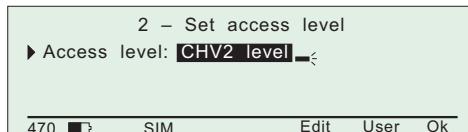
7 **Edit** opens password window:

Key in:
- Current password
- New password
- Retype to check

```
                 Edit password

    Old password:        *******
    New password:        *********
   ▸Retype new password: ▬⸜
470 ▭      SIM        ←Del                    Ok
```

Press **Ok** following each entry: ☞ **I**

To revert to **User level**, reselect the "**Set access level**" function and press **User**

WorldPhone – Chapter 2. Operation   **2.21**

Shifting to owner level / changing password:
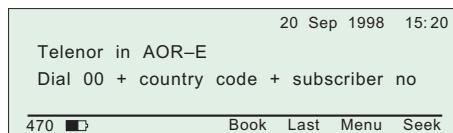
1 Press the **Menu** function key:

```
                                    20 Sep 1998  15:20
    Telenor in AOR–E
    Dial 00 + country code + subscriber no

    470  ▭         Book   Last   Menu   Seek
```

☞ | I |

2 Scroll down to **Set access level**: ☞ | ▼ |

```
                        Function menu
          Set default Net provider
    002▸Set access level
          Data/printer port setup
          Phone setup menu
          Traffic log
          Precharge
    470  ▭              Lock   Mail   Selct   Quit
```
☞ | ▶ |

3 **Selct** or **right arrow** opens the Set access level window:

```
                2 – Set access level
    ▸ Access level: User level ▬‹

    470  ▭                     Edit   Owner   Ok
```
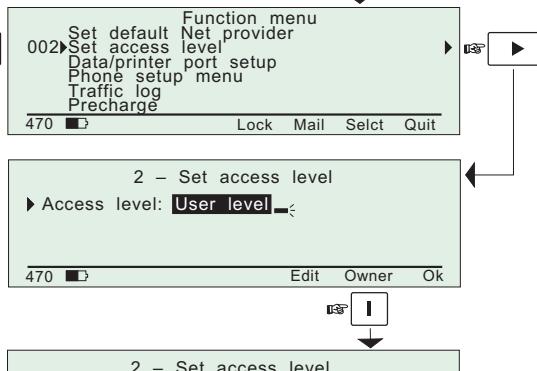
4 **Owner** opens the window for entering the password:

Note! The default password is:

1 2 3 4 5 6 7 8 9 0

☞ | I |

```
                2 – Set access level
      Access level: Owner level
    ▸Password: ********** ▬‹

    470  ▭                     ⬅Del           Ok
```

5 Key in password. Pressing **OK** activates the **Owner level**:

☞ | I |

Changing password:

```
                2 – Set access level
    ▸ Access level: Owner level ▬‹

    470  ▭                     Edit   User   Ok
```

6 Open set access level window again:

7 **Edit** opens password window:

☞ | I | | I |

Key in:

```
                Edit password
      Old password:       **********
      New password:       ************
    ▸ Retype new password: ▬‹

    470  ▭                 ⬅Del           Ok
```

• Current password
• New password *(10 – 12 digits)*
• Retype to check

☞ | I |

Press **Ok** following each entry:

To revert to **User level**, reselect the "**Set access level**" function and press **User**

Data/printer port setup
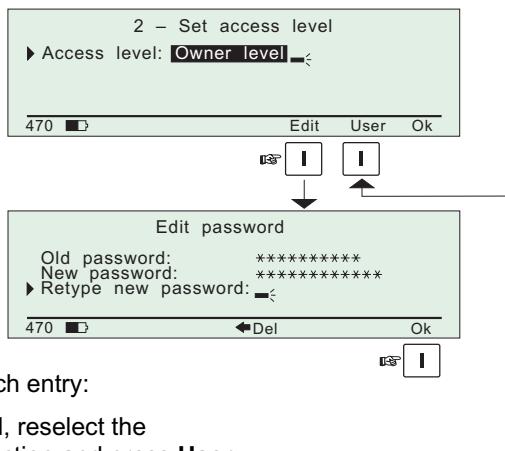
General

The **DATA** port may be set to operate with a PC or, for instance, to output a Traffic log directly to a printer*.*

Note! The bit rate setting applies for both PC and printer transfer.

Setup for data communication

- Speed as selected on next page, normally 9600 bps.
  Note! The bit rate set between the PC and the WorldPhone must be higher than the nominal 2400 bps WorldPhone-to-satellite bit rate to ensure maximum speed transfer.
- No parity *
- 8 data bits *
- 1 stop bit *

* These parameters can only be changed using AT commands, see appendix D.

Setup for output to printer

A printer must have serial interface, and is set as follows:

- Speed as selected on next page, i.e. the bit rate specified for the printer to be connected.
- No parity
- 8 data bits
- 1 stop bit

Procedure

1 Press the **Menu** function key:

```
                                  20 Sep 1998   15:20
   Telenor in AOR−E
   Dial 00 + country code + subscriber no

   470          SIM      Book  Last  Menu  Seek
```

☞ **I**
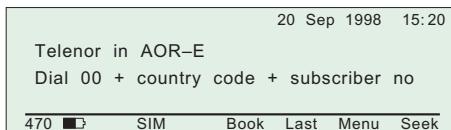
2 Scroll down to **Data/printer port setup**:   ☞ **▼**

```
▲                    Function menu
         Set access level
003▶Data/printer  port setup              ▶
         Phone setup menu
         Traffic log
         Precharge
         Advanced functions
   470          SIM      Lock  Mail  Selct  Quit
```

☞ **▶**

3 **Selct** or **right arrow** selects the **Data/printer port setup** window:

Bit rate:

```
                3 – Data/printer  port setup
▶Bit rate:     9600 bps
  Printer    :Disabled                         ▶
  AT modem:Disabled
  Hot Dial:  Enabled
  Initial mode: AT modem
   470          SIM            Edit        Save
```

☞ **▶**

4 **Edit** or **right arrow** opens list of bit rates:

☞ **I**

5 Scroll up/down to required data/ printer bit rate: ☞

▲
▼

```
                3 – Data/printer  port setup
▶Bit rate:    960      Available  bit rates
  Printer   :Dis →1200 bps
  AT modem:Dis    2400 bps
  Hot Dial:  En   4800 bps
  Initial mode: A  9600 bps
                   19200 bps
                   38400 bps
   470          SIM                        Selct
```

6 **Selct** enters the chosen rate:
Note! It is recommended to use 9600 bps for data communication.

☞ **I**

Printer:

*For output to printer, select **bit rate** according to printer specifications.*

7 Scroll down to printer and **Enab**le/**Disab**le the port for printing: ☞ **▼**

```
                3 – Data/printer  port setup
  Bit rate:    2400 bps
▶Printer   :Disabled
▶AT modem:Disabled
  Hot Dial:  Enabled
  Initial mode: AT modem
   470          SIM         Enab  Disab  Save
```

AT modem:

8 Scroll down and **Enab**le/ **Disab**le the port for AT modem:

☞ **I**   **I**
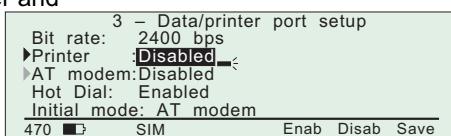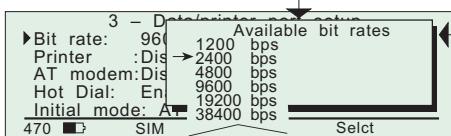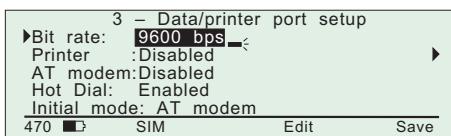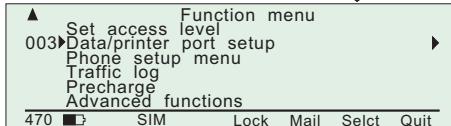
Recommended port setup			
Mode	*Output to printer*	*Data com. (AT)*	*Data com. (DTR dialing)*
Printer:	Enabled	Disabled	Disabled
AT modem:	Disabled	Enabled	Disabled
Hot dial:	Disabled	Disabled	Enabled

Hot dial:

When enabled, this function monitors the DTR-pin on the DATA port. When the DTR-pin is pulled high by equipment connected to the DATA port, a data call is automatically initiated to a pre-programmed number. The number is automatically stored under short number 99.

9 Scroll down to Hot Dial: ☞ ▼

```
             3 – Data/printer port setup
  Bit rate:     9600 bps
  Printer    :Disabled
  AT modem:Disabled
 ▶Hot Dial:   Enabled
 ▶Initial mode: AT modem                  ▶
  470 ▭     SIM      Setup Enab Disab Save
```

☞ | | | | | |
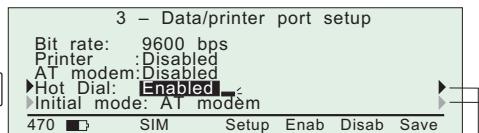
10 Setup opens the Phone book editing window.

Enter name, f.ex. "Hot".

Fill in required number, and change provider and network, if needed.

```
          Edit mode in Phone book        ◀
 ▶Name   : Hot
  Number : 004766779016
  Net provider: Default Net
  Terrestrial network: 00
                              Hot dial
  470 ▭     SIM     ◀Del           Save
```
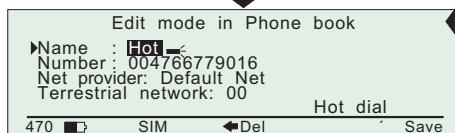
Initial mode:

The mode is set to AT modem as default.
With a PC running a terminal program connected to the WorldPhone (f.ex. Windows HyperTerminal), the menu is displayed on the screen. When selecting any of the MMI (Man Machine Interface) settings, the PC screen automatically displays the WorldPhone picture.

11 Scroll down to Initial mode (step 9).
Pressing **Selct** allows choosing MMI interface: ☞ ▲ ▼

```
             3 – Data/printer port setup
                   Initial mode         ◀
  Bit rate:    960→ AT modem
  Printer    :Dis   MMI (ASCII)
  AT modem:Dis   MMI (extended ANSI)
  Hot Dial:  En   MMI (multilingual)
 ▶Initial mode: A
  470 ▭     SIM                    Selct
```

☞ | |

```
             3 – Data/printer port setup
  Bit rate:     9600 bps
  Printer    :Disabled
  AT modem:Disabled
  Hot Dial:   Enabled
  Initial mode: AT modem
  470 ▭     SIM      Setup Enab Disab Save
```
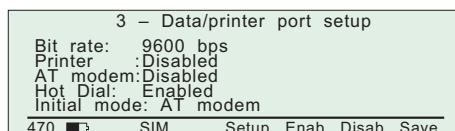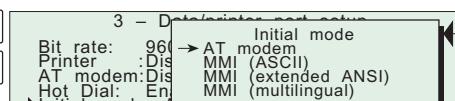
12 Save stores the chosen settings. ☞ | |

General

This function sets as follows:

- The ON-time of the display illumination and the screen picture. When OFF, pressing any key turns the display back ON.
- Default display contrast, *see following pages.*
- Default level of ringing tone and loudspeaker, *see following pages.*
- Date and time, *see following pages.*
- Key lock, which prevents unauthorized use, *see following pages.*
- Language
- Mailbox access numbers

Procedure

1 Press the **Menu** function key and scroll down to **Phone setup menu**: ☞ ▼

Menu
☞ ▮

```
▲                    Function  menu
      Data/printer  port  setup
004▶Phone  setup  menu                 ▶
      Traffic  log
      Precharge
      Advanced  functions
─────────────────────────────────────
470 ▭      SIM      Lock  Mail  Selct  Quit
```
☞ ▶
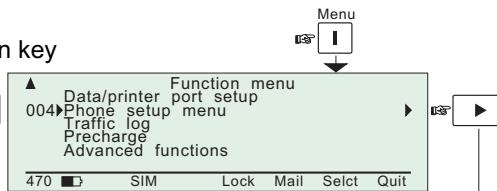
2 **Selct** or **right arrow** opens the **Phone setup menu** window:

☞ ▮
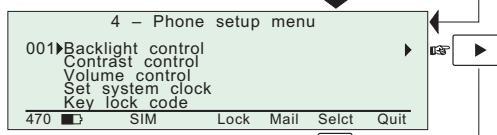
3 Press **Selct** or **right arrow** again to open the **Backlight control** window:

Timing of display light and screen picture: ☞ ▼

```
        4 – Phone  setup  menu
001▶Backlight  control                 ▶
      Contrast  control
      Volume  control
      Set  system  clock
      Key  lock  code
─────────────────────────────────────
470 ▭      SIM      Lock  Mail  Selct  Quit
```
☞ ▶

☞ ▮

```
        41 – Backlight  control
▶Light (battery):  Light 10 / Screen 60  ▶
▶Light (external): Light on / Screen on   ▶
─────────────────────────────────────
470 ▭      SIM                  Edit    Save
```
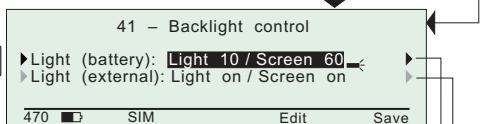
Pressing **Edit** or **right arrow** opens the list of choices.

☞ ▮   ☞ ▮

Example when powered by ***battery pack***:
(Light 30 / Screen 60 automatically switches OFF display light after 30 secs, and screen picture after 60 secs.)

▲
▼
☞

```
        Light / Screen  duration
      Light off / Screen 60
   →Light 30 / Screen 60
      Light 90 / Screen on
      Light off / Screen on
      Light on / Screen on
```
Selct
☞ ▮
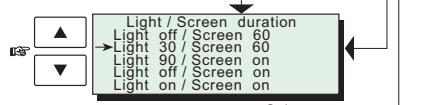
Example applicable when powered by ***external adapter***:
(Light and screen permanently ON).

▲
▼
☞

```
        Light / Screen  duration
      Light off / Screen on
   →Light on / Screen on
```
Selct
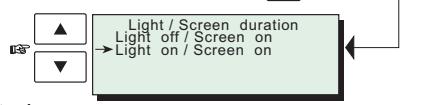
Pressing **Save** stores the selected settings and returns to phone setup menu.

☞ ▮

Phone setup

Setting default contrast and ringing volume

1 Press the **Menu** function key:

```
                                      20 Sep 1998   15:20
  Telenor  in  AOR–E
  Dial  00 +  country  code  +  subscriber  no

  470 ▭     SIM        Book   Last   Menu   Seek
```

☞ **I**

2 Scroll down to **Phone setup menu**: ☞ **▼**

3 **Selct** or **right arrow** opens **Phone setup menu** window:

```
  ▲                 Function menu
              Data/printer  port  setup
  004▶Phone setup menu                          ▶
              Traffic log
              Precharge
              Advanced functions
  470 ▭     SIM          Lock   Mail  Selct  Quit
```

☞ **▶**

☞ **I**

4 Scroll down to **Contrast control**: ☞ **▼**

```
              4 – Phone setup menu
              Backlight control
  002▶Contrast control                          ▶
       ▶Volume control
              Set system clock
              Key lock
  ▼  Language setup
  470 ▭     SIM          Lock   Mail  Selct  Quit
```

☞ **▶**

☞ **I**

5 Press **Selct** or **right arrow** to open the **Contrast control** window:

Adjust with arrow keys.
Save stores the setting.

```
          42 – Set default display contrast




                               Contrast ▲▼
  470 ▭     SIM                              Save
```

☞ **I**
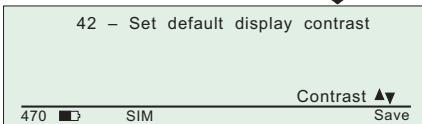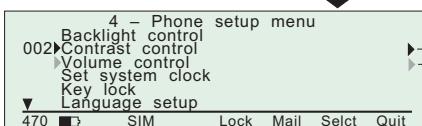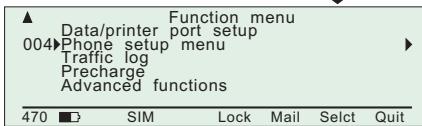
6 Repeat step 4 for **Volume control**: ☞ **▼**

```
          43 – Set default volume
  ▶Ringing tone:  [Medium] ◄                    ▶
  ▶Loudspeaker:   Medium

  470 ▭     SIM               Edit          Save
```

☞ **I**   ☞ **I**

Press **Edit** or **right arrow** to set **ringing** tone level.

Scroll up/down to required setting and press **Selct**:

```
  ▲              Volume level
              Weak
  ☞      →Medium
  ▼         High
              Very high

                               Selct
```

☞ **I**

Repeat procedure for **loudspeaker** volume.

Pressing **Save** stores the selected levels.

Phone setup cont'd
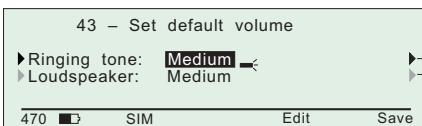
Setting date and time

The date and time is set to UTC (GMT) at the factory. It is recommended to leave this setting if correct.

Warning!
The system is automatically restarted when accepting new time settings. All calls will be disconnected.

Example

1 Press the **Menu** function key:

```
                                    20 Sep 1998   15:20
  Telenor in AOR–E
  Dial 00 + country code + subscriber no

470 ▭▯      SIM       Book  Last  Menu  Seek
```
☞ **I**

2 Scroll down to **Phone setup menu**: ☞ **▼**

```
▲                    Function menu
      Data/printer  port setup
004▸Phone  setup  menu                        ▸
      Traffic  log
      Precharge
      Advanced  functions
470 ▭▯      SIM       Lock  Mail  Selct  Quit
```
☞ **►**
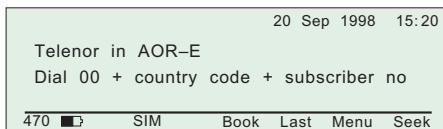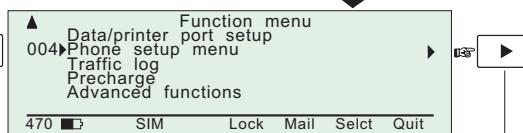
3 Press **Selct** or **right arrow** and scroll down to **Set system clock**: ☞ **▼**

```
▲           4 – Phone  setup  menu
      Volume  control
004▸Set  system  clock                        ▸
      Key  lock
      Language  setup
      Mailbox  access  numbers
      Call  charge  setup
470 ▭▯      SIM       Lock  Mail  Selct  Quit
```
☞ **►**
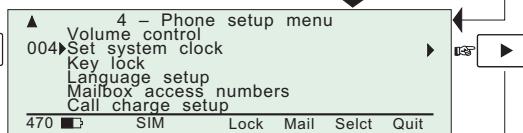
4 Continue with **Selct** or **right arrow** to select function and key in new data: ☞ **▼**

Move down using **down arrow**.

```
              44 – Set  system  clock
▸Hour:     13
  Minute:  02
  Day:     20
  Month:   09
  Year:    1998
470 ▭▯      SIM      ◄Del              Ok
```
☞ **I**
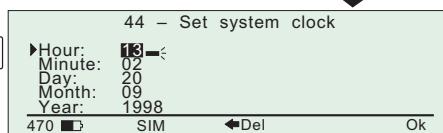
5 Press **OK** and confirm with **Yes** if settings are correct.

```
  New  system  clock  setting
  13:02:00      20 September 1998

  Proceed  to  system  reset?
470 ▭▯      SIM       Yes               No
```
☞ **I**
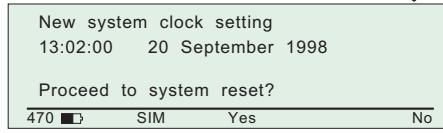
Note! The WorldPhone is now restarted.

Setting key lock

The WorldPhone must be set for use with a **specific SIM**, or with **no SIM**. *See Advanced functions: Access control.*

Procedure

1 Press the **Menu** function key:

```
                                       20 Sep 1998   15:20
    Telenor in AOR–E
    Dial 00 + country code + subscriber no

   470  ▭     SIM       Book  Last  Menu  Seek
```

☞ **I**

2 Scroll down to **Phone setup menu**: ☞ **▼**

```
  ▲                    Function menu
          Data/printer  port setup
   004▶Phone  setup  menu                          ▶
          Traffic  log
          Precharge
          Advanced  functions
   470  ▭     SIM       Lock  Mail  Selct  Quit
```

☞ **▶**

☞ **I**
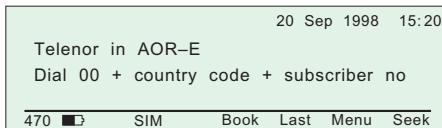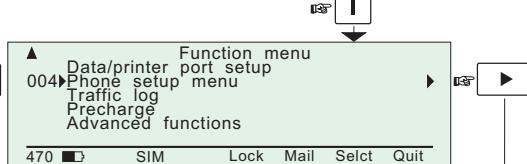
3 Press **Selct** or **right arrow** and scroll down to **Key lock**: ☞ **▼**

```
  ▲              4 – Phone  setup  menu
          Set  system  clock
   005▶Key  lock  code                             ▶
          Language  setup
          Mailbox  access  numbers
          Call  charge  setup
   470  ▭     SIM       Lock  Mail  Selct  Quit
```

☞ **▶**

☞ **I**
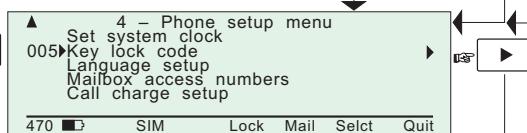
4 Continue with **Selct** or **right arrow** to **Key lock** window.

Enter unlock code: *(1 - 6 digits)*

1 – 6 digits

```
                45  –  Key lock

   ▶Enter  unlock  code: *****◄

   470  ▭     SIM       ◄Del             Ok
```

and press **OK:**

☞ **I**

5 Repeat code to confirm:

```
                45  –  Key  lock

   ▶Confirm  unlock  code: *****◄

   470  ▭     SIM       ◄Del             Ok
```

and press **OK** again:

☞ **I**
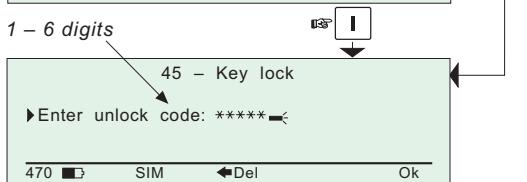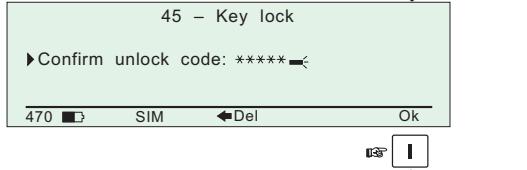
Language setup

The display language may be changed as described below.

Example

1 Press the **Menu** function key:

```
                                    20 Jan 1998  15:20
   Telenor in AOR–E
   Dial 00 + country code + subscriber no

   470          SIM        Book  Last  Menu  Seek
```

2 Scroll down to **Phone setup menu**:

```
 ▲              Function menu
         Data/printer port setup
   004▶Phone setup menu                        ▶
         Traffic log
         Precharge
         Advanced functions
   470          SIM    Lock  Mail  Selct  Quit
```
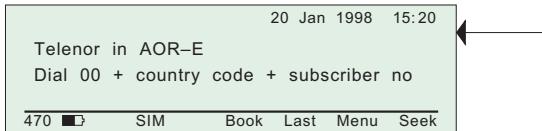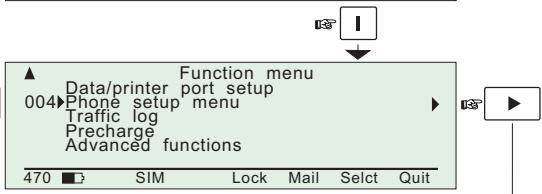
3 Press **Selct** or **right arrow** and scroll down to **Language setup**:

```
 ▲          4 – Phone setup menu
         Key lock code
   006▶Language setup                          ▶
         Mailbox access numbers


   470          SIM    Lock  Mail  Selct  Quit
```

4 Continue with **Selct** or **right arrow** to select function.

```
           46 – Language setup
   ▶Language:  English  ◄                       ▶


   470          SIM         Edit         Save
```
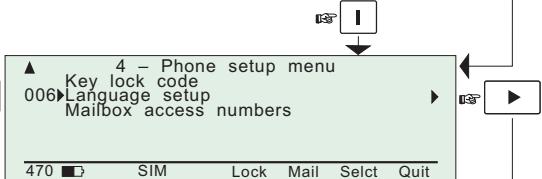
5 Press **Edit** and scroll up/down to wanted language:

Pressing **Selct** reads out the selected language in the setup window:

```
           46    ▲    Available languages
                     English
   ▶Language:    → Deutsch
                     Español
                     Français
                     Portugués
   470          SIM  Русский        Selct
```

Pressing **Save** changes the display text to the selected language.

To easy restore English, see next page.

Language reset

When starting the WorldPhone with the display language set to f.ex. Portuguese, the **Eng** function key provides an easy way to restore the default English display language:

☞ 1!/? ┄┄┄┄
```
              Nera  WorldPhone

▶PIN  do  SIM: ******* ⌐⌿

 Tecle  "Help"  para  uma  apresentacão .
470 ▮▭                    ◀Apag     Eng     Ok
```
☞ I

```
Do  you  want  to  reset  the  language  to
English ?  ( "SIM" = "Yes"  and  "Não " = "No" )

Quer  substituir  para  língua  inglesa ?
470 ▮▭                    Sim               Não
```
☞ I   ☞ I

Phone setup cont'd
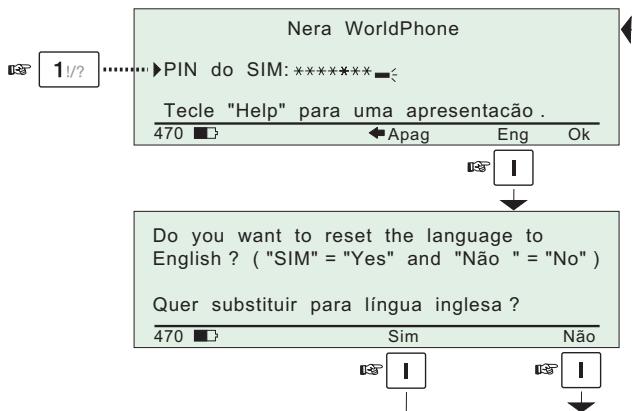
Mailbox access numbers

When receiving a mail alert (voice, fax or data), the user must call the
server mailbox to retrieve the message. To call the mailbox, normally
the default number 57 can be used.

The mailbox dial-up number may be changed as described below.

Example

1 Press the **Menu**
function key:

```
                                    20 Sep 1998   15:20
Telenor in AOR–E
Dial 00 + country code + subscriber no

470 ▆▭      SIM      Book  Last  Menu  Seek
```

2 Scroll down
to **Phone setup
menu**:

```
▲                Function menu
     Data/printer port setup
004▶Phone setup menu                        ▶
     Traffic log
     Precharge
     Advanced functions

470 ▆▭      SIM        Lock  Mail  Selct  Quit
```
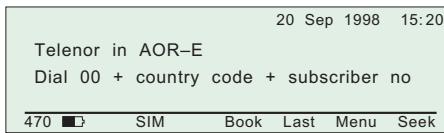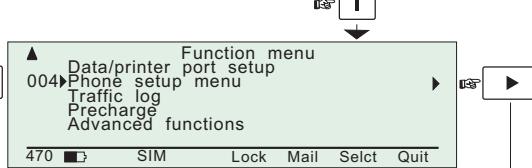
3 Press **Selct** or
right arrow and
scroll down to
**Mailbox access
numbers**:

```
▲        4 – Phone setup menu
     Language setup
007▶Mailbox access numbers                  ▶
     Call charge setup


470 ▆▭      SIM        Lock  Mail  Selct  Quit
```
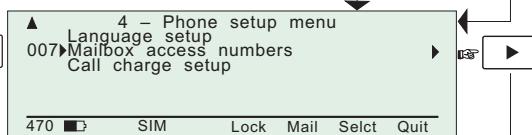
4 Continue with
Selct or **right arrow**
to select function
and key in new
numbers:

```
        47 – Mailbox access numbers
▶Voice:   57
 Fax:     57
 Data:    57

 Default numbers for mailbox access
470 ▆▭      SIM      ◀Del              Ok
```

5 Pressing **OK**
stores the new
mailbox number(s).

Call charge setup

With the Call charge function enabled the cost of the call will be displayed during the call and for 10 seconds after the call is terminated. Later the charge can be fetched using the Traffic log function.

The price per unit and minimum charge time is set as described below.

Example

1 Press the **Menu** function key:

```
                                              20 Sep 1998   15:20

   Telenor in AOR–E

   Dial 00 + country code + subscriber no


  470  ■▢        SIM       Book  Last  Menu  Seek
```
☞ │

2 Scroll down to **Phone setup menu**: ☞ ▼

```
  ▲                  Function menu
            Data/printer port setup
  004▶Phone setup menu                          ▶
            Traffic log
            Precharge
            Advanced functions

  470  ■▢        SIM       Lock  Mail  Selct  Quit
```
☞ ▶

☞ │
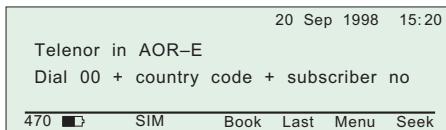
3 Press **Selct** or **right arrow** and scroll down to **Call charge setup**: ☞ ▼

```
  ▲              4 – Phone setup menu           ◀
            Mailbox access numbers
  008▶Call charge setup                         ▶

  470  ■▢        SIM       Lock  Mail  Selct  Quit
```
☞ ▶

☞ │
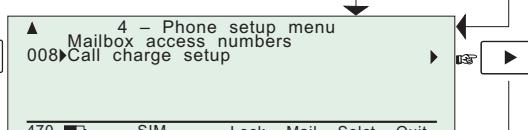
4 Continue with **Selct** or **right arrow** to select the **Call charge** function.

Enab activates the values set below.
*See **Making a call** previously in this chapter.*

```
              48 – Call charge                  ◀

   Charge time unit (s):              6
   Price per charge unit:          3.00
   Minimum charge time (s):          60

  470  ■▢        SIM        Setup  Enab  Disab  Ok
```

Disab disables the Call charge indication.

☞ │   ☞ │

Ok activates the call charge indication.

5 Press **Setup** to modify entries: ☞ ▼

```
              48 – Call charge

  ▶Charge time unit (s):            ▮6▮–⊰
   Price per charge unit:          3.00
   Minimum charge time (s):          60

  470  ■▢        SIM       ◀Del              Save
```
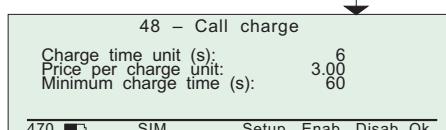
Save stores the new values:

☞ │
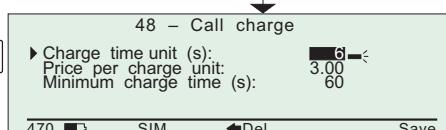
General

This function logs all outgoing calls both with and without SIM card inserted. Every call is logged with:

- subscriber number, start time and duration
- service (voice, fax, data, NIMS)
- Net provider and satellite
- user name (if access code is enabled) / SIM card FWD

The WorldPhone *owner* may set the log output mode as follows, *(see "Traffic log settings")*:

- off (stops logging)
- cleared (stops logging and clears the log)
- for automatic printout after 1 or 10 calls (auto print limit).
- for display on the screen
- logging of incoming calls

Traffic log readout

1 Press the **Menu** function key and scroll down to **Traffic log**:

Menu
☞ **I**

```
                   Function menu
  ▲
006▶Phone  setup  menu
    Traffic log                                      ▶    ☞ ▶
    Precharge
```
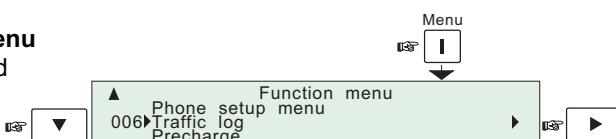
2 **Right arrow** or **selct** opens the **Traffic log** window:

```
             6 – Traffic log

Log  mode :                          To printer
Unprinted  calls :                             0
▶Auto  print  limit :                          1
Log  incoming  calls :                   Enabled
470  ▭▷    SIM                    View    Ok
```

Only appears when log mode is set for output to printer. See next page.   ☞ **I** **I**

3 **View** displays the list of call data:

Scroll up/down to wanted call: ☞

```
▲    Dialed  number      Call start      Dur.
▶ * # 004767244700,    01Sep 13:56,  0:01 ▶
    # 0044816865701,    15Aug 17:08,  0:12
  ▶ * # 003963221800,    18Aug 11:08,  0:05
▼ * # 00551155053008,  03Jul  12:44,  0:11
470  ▭▷    SIM                         Quit
```

 # : entry tagged for printout by owner
* : entry not yet printed

Minutes:seconds

4 Pressing **right arrow** shows detailed call data:

```
▲Dialed  number :                 004767244700
 Net  provider                          Telenor
 Satellite :                              AOR-E
◀Service :          Voice▶User :            Nera
 Reg. No :          1    Start :   01Sep 13:56
 Printed :        Yes    Duration :      0:00:02
▼Tagged :          No    Charge :            90◀
470  ▭▷    SIM     Print  Remov  Tag  Quit
```

Appears when "Access code" is enabled. (For SIM card call – SIM Id: ABCDF) See Advanced functions: Access control.

When call charge is enabled, the "Charge" field appears showing the cost of the viewed call.

Ref. no. | *#: record printed previously. "No hash" when printed first time.* | *Subscriber number* | *Start date and time* | *Call duration in minutes and seconds* | *Port* | *Net service provider* | *WorldPhone user (only appears when access code is enabled)*

```
Ref   Dialed number            Call start      Dur.  Port  Net           User
001 # 004767243669             980711 09:20    4:05  H.set CMC           Aslaug
002   0044222534555            980711 10:56    2:33  H.set BT            Bob
003 # 004722259024             980711 13:24   11:22  TEL   Telenor       John
004   00494088251              980711 15:46   10:05  TEL   Teleglobe IDG Franz
005 # 00871765421392           980712 08:45    5:32  H.set AOR-E         Charlie
006   Incoming call            980712 09:33    6:14  H.set BT            Bob
007 # 00494088251              980712 10:47    9:11  TEL   Teleglobe IDG Franz
008 # 0044816865701            980712 13:55    5:20  TEL   BT            George
009   004722259024             980712 16:09   15:44  TEL   Telenor       John
010 # 044222534555             980712 16:53    9:10  H.set BT            Bob
Total duration is 2:05:28 (125.46 minutes)
 10 records printed 98.07.12 17:34
```

Number of records | *Duration in hours, minutes and seconds* | *Accumulated time in minutes and 1/100 of a minute*

Note! When call charge is enabled, the duration field will be replaced by a call charge field showing the cost of each call.

Example of traffic log printout.

Traffic log settings (owner level only)

1 Open the **Traffic log** window: ☞ ▼

```
         6 – Traffic log
▶Log mode :                    To printer ▶
 Unprinted calls :                      0
▶Auto print limit :                     1 ▶
▶Log incoming calls :             Enabled ▶
 470 ▭▯        Print   Edit   View   Ok
```
☞ | | | | |

Print outputs all unprinted and tagged entries.
See previous page.

Only appears when log mode is set for output to printer.

2 Press **Edit** or **right arrow** for setting of Log mode. Scroll up/down and press **Selct** at wanted output mode: ☞

▲ ▼
```
              Log mode
  Off
→ Cleared
  Print after 1 call
  Print after 10 calls
  To screen
```
No calls are logged when set to Off or Cleared. All existing entries are deleted when set to Cleared.

Selct ☞ | |

Auto print limit can easily be toggled between 1 and 10:

▲ ▼
```
           Print frequency
→ Print after each call
  Print after 10 calls
```
Selct ☞ | |

Logging of incoming calls can enabled/disabled:

▲ ▼
```
         Log incoming calls
  Enabled
→ Disabled
```
Selct ☞ | |

3 View displays the list of calls: ☞

▲ ▼
```
▲  Dialed number      Call   Start   Dur.
▶  # 004767244700,   01Sep 13:56, 0:01 ▶
 * # 0044816865701,  18Aug 17:08, 0:12
   # 003963221800,   15 Aug 11:08, 0:05
▼ * # 00551155053008, 03Jul 12:44, 0:11
 470 ▭▯          Print      Tag   Quit
```
Not printed   *Tag for printout* ☞ | |

Scroll to wanted call and press **Tag** to tag entry: Press again to untag.

Pressing **right arrow** shows detailed call data of selected number:

```
▲Dialed number :         004767244700
 Net provider                  Telenor
 Satellite :                     AOR-E
◀Service :       Voice▶User :     ▶Nera
 Reg. No :          1  Start : 01Sep 13:56
 Printed :        Yes  Duration :  0:00:02
▼Tagged :          No  Charge :        90
 470 ▭▯      Print  Remov  Tag   Quit
```
☞ | | | |

Hours:minutes:seconds

Print outputs the selected entry to the printer without header and footer.

Remove erases the entry from the log.

*Appears when "Access code" is enabled. See **Advanced functions: Access control**.*

Quit reverts to main window.

General

For use with SIM, see "Precharge on SIM card".

The WorldPhone can be preprogrammed with a total call duration limit of up to **44640 minutes** (744 hours).

The owner stores a special telephone number under short number **00**. This allows the user to call the owner to buy more time even when having exceeded the time limit.

During a call the remaining time is displayed next to the call duration in hours and minutes (seconds for the last minute).

For users, the Precharge function only appears in the menu when enabled, i.e when bought time is loaded, see following pages.

Precharge readout

1 Press the **Menu** function key:

```
                                   20 Sep 1998  15:20
Telenor in AOR–E
Dial 00 + country code + subscriber no

470 ▭            Book   Last   Menu   Seek
```

☞ I

2 Scroll down to **Precharge**: ☞ ▼

```
▲              Function menu
     Traffic  log
008 Precharge                              ▶   ☞ ▶
     Advanced  functions

470 ▭            Lock   Mail   Selct   Quit
```
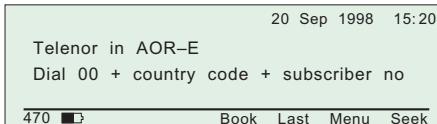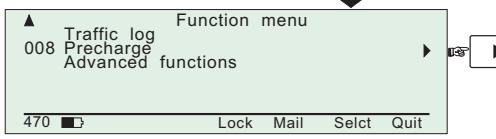
3 **Selct** or **right arrow** opens the **Precharge** window which displays the time used and remaining in hours, minutes and seconds:

☞ I

```
              8 – Precharge

Time  used:      2:33:45
Time  remaining: 0:56:15

470 ▭                      Code   Ok
```
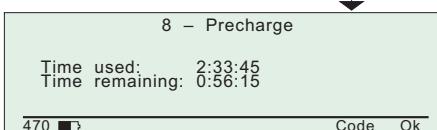
Example of call window with call duration and remaining time displayed in hours and minutes:

Time remaining ——
Call duration ——

```
                                   0:37 / 0:56
Calling  004767244700
via Telenor in AOR-E

Status :  Connected
          Handset        Volume▲▼
470 ▭         ◀on   Mute   Menu  Clear
```
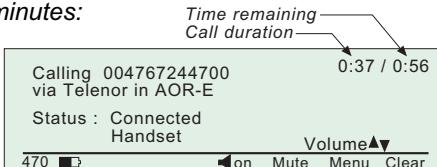
Buying more remaining time

There are three ways to load precharge time:

- **Call the owner** via short number 00 and get the buy code during the conversation. *(Calling short number 00 can be done even if exceeding the remaining time limit and does not influence the limit value). See below.*

- **Fax or mail** the Forward ID and Index to the owner who generates the buy code and returns this by fax, mail, etc. *See next page.*

- **The owner** loads the new Precharge limit into the WorldPhone.

Buying time by calling the owner

1 Dial 00: ☞ [0 yz] [0 yz] ········▸ Number: 00 ◂

```
                    Net provider: Telenor
                    Terrestrial network: 00

                    470 ▯         ◀Del    Call         Short
```

and press **Short**: ────────────────────────▸ ☞ [I]

```
                    Calling Owner              00:07 / 0:00
                    via Telenor in AOR-E

                    Status : Connected
                            Handset           Volume▲▼
                    470 ▯        ◀on  Mute  Menu  Clear
```

2 Pressing the **Menu** function key displays IMN numbers: ☞ [I]

```
                           IMN numbers

                    Handset: 762420510
                    Phone:   762424333
                    Fax:     762445900
                    Data:    762430520
                    (ESC returns to previous window.)
                    470 ▯              Time          Book
```

Esc

3 Pressing **Time** opens the **Precharge** window displaying the Forward ID, Index and user code entry field: ☞ [I]

Read the Forward ID, Index and the new call duration you want to buy to the owner.

```
                         8 – Precharge

                    Forward ID: 6955B9
                    Index:      827660941
                    ▸ Code: 123456 ◂
                    470 ▯          ◀Del           Ok
```

Then key in the code he reads back to you. The code contains the time information.

☞ [I]   ☞ [I]

Pressing **Ok** loads the new remaining time limit:

```
                         8 – Precharge

                    Time used:       2:33:45
                    Time remaining:  3:56:15
                    470 ▯                 Code   Ok
```

4 Press **Ok** again and then **Esc** to return to the conversation window: ───────▸ ☞ [I]

Buying time via fax or mail

1 Press the **Menu** function key and scroll down to **Precharge**:

```
                    Function  menu
▲    Traffic  log
008▶Precharge
     Advanced  functions            ▶

470  ▭▯              Lock  Mail  Selct  Quit
```

2 **Selct** or **right arrow** opens the **Precharge** window:

```
              8  –  Precharge

  Time  used:        2:33:45
  Time  remaining:  0:56:15

470  ▭▯                        Code   Ok
```

3 Pressing **Code** opens the **Precharge** window displaying the Forward ID, Index and user code entry field:

Fax or mail the Forward ID, Index and the new call duration you want to buy to the owner.

```
              8  –  Precharge

  Forward  ID:  6955B9
  Index:          827660941
▶ Code:  123456  ◄
470  ▭▯              ◀Del            Ok
```

*Key in the code he faxes or mails back to you. The code contains the time information.*

Pressing **Ok** loads the new remaining time limit.
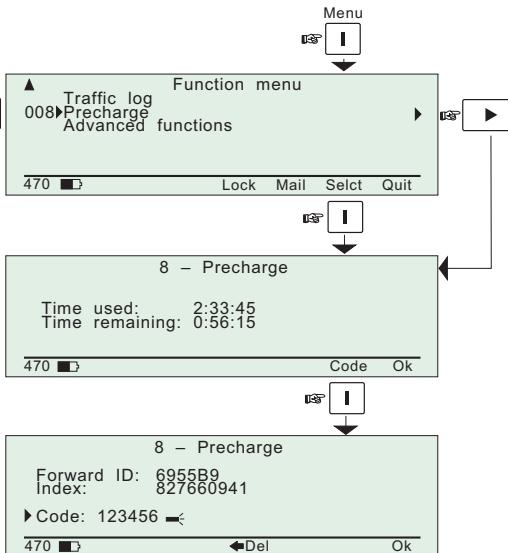
Owner loads Precharge time

*The WorldPhone must be set in **owner level**.*

1 Press the **Menu**
function key
and scroll down
to **Precharge**: ☞ ▼

```
                    Menu
              ☞  |
                 ↓
┌──────────────────────────────────────┐
│ ▲          Function  menu            │
│    Traffic  log                      │
│ 008▶Precharge                      ▶ │  ☞  ▶
│    Advanced  functions               │
│                                      │
│ 470 ▬▭        Lock  Mail  Selct  Quit│
└──────────────────────────────────────┘
```

2 **Selct** or **right
arrow** opens the
Precharge window:

```
              ☞  |
                 ↓
┌──────────────────────────────────────┐
│           8  –  Precharge          ◀ │
│                                      │
│   Time  used:       2:33:45          │
│   Time  remaining:  0:56:15          │
│                                      │
│ 470 ▬▭         Clear  Buy  NewK  Ok  │
└──────────────────────────────────────┘
```
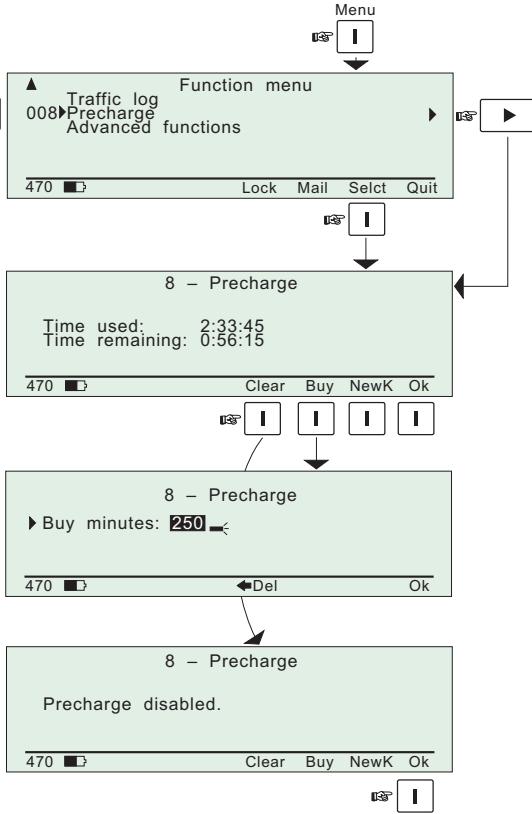
3 Pressing **Buy**
allows keying in a
new time limit:

```
         ☞  |    |    |    |
                 ↓
┌──────────────────────────────────────┐
│           8  –  Precharge            │
│ ▶ Buy  minutes: 250 ◖               │
│                                      │
│                                      │
│ 470 ▬▭             ◀Del          Ok  │
└──────────────────────────────────────┘
```

4 Pressing **Clear**
disables the
Precharge function:
*The Precharge menu
entry is now no longer
visible from user level.*

```
┌──────────────────────────────────────┐
│           8  –  Precharge            │
│                                      │
│   Precharge  disabled.               │
│                                      │
│ 470 ▬▭         Clear  Buy  NewK  Ok  │
└──────────────────────────────────────┘
              ☞  |
```

Precharge is *enabled* when buying minutes.

*NB! Remember to revert to **user level**.*

Key readout

> *The WorldPhone must be set in **owner level**.*
>
> Using the Precharge Administrator program (QPRG 9110039) to generate a buyer's Precharge code requires both the owners password and a "key" generated by the WorldPhone, as follows:

Precharge cont'd

1 Press the **Menu** function key and scroll down to **Precharge**: ☞ ▼

☞ Menu ▐ I ▌

```
▲                    Function  menu
     Traffic  log
008▶Precharge                                     ▶    ☞  ▶
     Advanced  functions

470 ▬▷                        Lock   Mail   Selct   Quit
```

2 **Selct** or **right arrow** opens the **Precharge** window:

☞ ▐ I ▌

```
              8  –  Precharge

    Time used:         2:33:45
    Time remaining:  0:56:15

470 ▬▷                        Clear   Buy   NewK   Ok
```

☞ ▐ I ▌
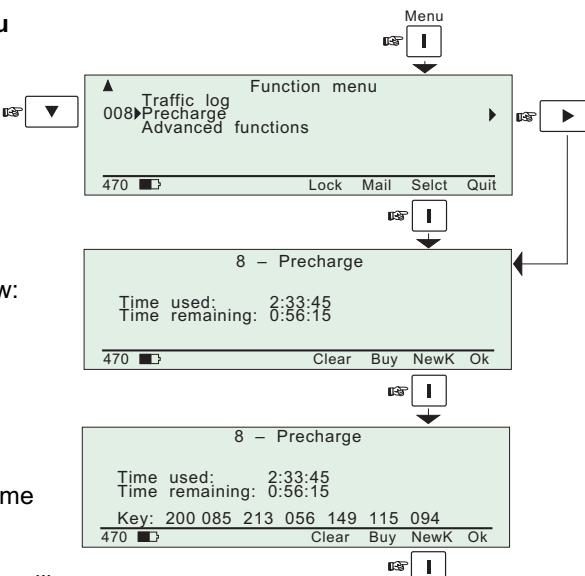
3 A new "key" is generated every time **NewK** is pressed:

```
              8  –  Precharge

    Time used:         2:33:45
    Time remaining:  0:56:15
    Key: 200 085 213 056 149 115 094
470 ▬▷                        Clear   Buy   NewK   Ok
```

☞ ▐ I ▌

Precharge code handling:

| OWNER	USER
• Before a WorldPhone may be rented, the owner must derive its specific key (**NewK**) and store it in the data base of the Precharge Administrator program, which is used to generate more precharge minutes for the user. *See above.* At changes, the NewK must be updated in the data base. The owner also needs to register the WorldPhone's owner password with the Precharge Administrator program.	*More call time is needed:* When wanting to buy more call time, the user conveys the **Forward ID**, **Index** and the requested **call time** to the owner:
• The owner uses the Precharge Administrator program to generate the **Precharge code** for the user on basis of the above **NewK**, owner's password and the information received from the user.	• the user calls the owner via short number 00, • or sends telefax or mail.
• The owner reads or sends the new **Precharge code** to the user.	The user keys in the new **Precharge code** provided by the owner.

Precharge on SIM card

When using SIM card, any Precharge set on the telephone itself is overridden. If no Precharge is set on the SIM card, the WorldPhone may be used freely.

Readout on SIM

The procedure is the same as described previously for the telephone (except for the Code function which now is not required),
see "Precharge readout" :

```
                        8 – Precharge

         Time used:      2:33:45
         Time remaining: 0:56:15

         470 ▮▭      SIM                          Ok
```
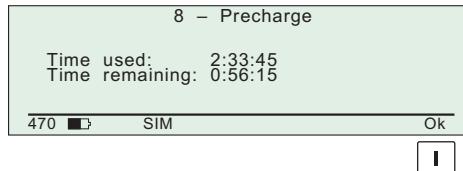
During a conversation, the time remaining and call duration are displayed as for calls without using SIM card.

Some SIM cards may have a prepaid option. Contact your SIM vendor for more information on how to upgrade your SIM card.

Overview

Some of the Advanced functions are accessible from **Phone OWNER LEVEL** or **CHV2 LEVEL** only.

The OWNER LEVEL and CHV2 levels are protected by passwords.

For shifting to owner/CHV2 level and assignment of password, *see "User access".*

The Advanced functions include as follows:

- **Access control**:
    Restrict dial
    Access code
    Restrict SIM usage

- **Satellite setup**

- **Configuration**:
    Port configuration
    Net service providers
    Power conservation
    Set diagnostics
    Set preferred Nets *(with SIM card only)*
    Set allowed Nets *(with SIM card only; CHV2 level or higher)*
    Set S/A preferred Nets *(with SIM card only)*
    Set S/A allowed Nets *(with SIM card only; CHV2 level or higher)*
    Charge tone

- **Information available:**
    IMN numbers
    Misc. version Id information
    Oscillator Compensation ⎫ *(owner level, or in user level*
    Network status information ⎰ *when diagnostics is ON, see*
    Configuration: Set diagnostics)

- **Install: Installation and debug menu**:
    Paid functions *(owner level)*
    Phone name setup *(owner level)*

Introduction

The following functions are available for controlling the use of the WorldPhone:

- **Restrict dial** which allows the owner to establish a Barred list of subscriber numbers that cannot be called, or set the WorldPhone for dialing from Phone Book only.
  See next page.
- **Access code** which opens the WorldPhone for up to 25 authorized users. *See following pages.*
- **Restrict SIM usage** which permits controlling the use of SIM card with the WorldPhone. *See following pages.*

The functions are editable in owner level only.

Procedure:

1 Press the **Menu** function key and scroll down to **Advanced functions**: ☞ ▼

```
                          Menu
                        ☞ │ I │
                              ▼
▲              Function  menu
      Precharge
009▶Advanced  functions                      ▶   ☞ ▶

470 ▬▭      SIM        Lock  Mail  Selct  Quit
```

2 **Selct** or **right arrow** opens the **Advanced functions menu**:

```
                        ☞ │ I │
                              ▼
▲         9 – Advanced  functions  menu      ◀
001▶Access  control                        ▶   ☞ ▶
      Satellite  setup
      Configuration
      Information  available
470 ▬▭      SIM        Lock  Mail  Selct  Quit
```

3 Pressing **Selct** or **right arrow** again opens the **Access control menu:** ☞ ▼

```
                        ☞ │ I │
                              ▼
         91 – Access  control  menu          ◀
001▶Restrict  dial                         ▶
    ▶Access  code                          ▶
    ▶Restrict  SIM  usage                  ▶

470 ▬▭      SIM        Lock  Mail  Selct  Quit
```

allowing selection of the submenus:

```
                        ☞ │ I │
```

Restricted dialing, see next page ◀
Access code, see following pages ◀
Restricted SIM usage, see following pages. ◀

Access control *(side tab)*
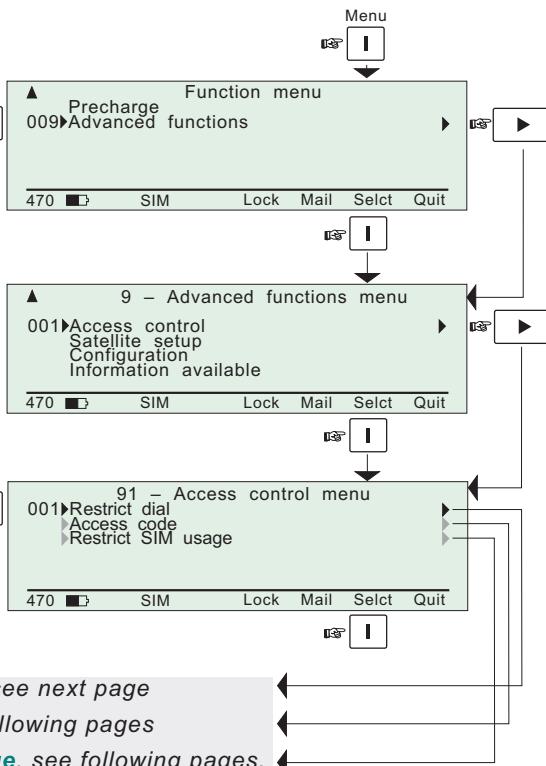
Restricted dialing

The WorldPhone provides three choices of controlling calls:

- No restrictions.
- **Barred list**, which may contain up to 10 phone numbers or part of numbers that **can not** be called. F.ex. the entry "0087" in the barred list prevents all mobile-to-mobile calls.
- **Dial from Book only**, which restricts calls to the numbers in the Phone Book (in the WorldPhone). It is still possible to append, i.e. a short number entry with number field "0047" means that it is possible to dial all Norwegian numbers. When a SIM card is inserted, the SIM entries will **not** be merged with the "phone" entries.

The function is active for non-SIM operation and for one specific SIM card, *see "Restricted SIM usage"*. It applies to all ports of the WorldPhone. Only one of the lists can be activated at one time.

The list to be active is selected by the owner, see next page.

<div style="float:right">**Access control cont'd**</div>

Checking the dialing setup:

1 Press **Selct** or **right arrow** via **Advanced functions** to open the **Access control menu**:

2 Pressing **Selct** or **right arrow** again opens the **Restricted dialing** window which shows the active list:

- *No restrictions*
- *Barred list*
- *Dial from Book only*

```
          91 – Access control menu
001▶Restrict dial                        ▶
    Access code
    Restrict SIM usage

470 ▣▷      SIM        Lock  Mail  Selct  Quit
```
☞ ▶

```
       911 – Restricted dialing

Current mode : No restrictions

470 ▣▷      SIM                          Ok
```
Alternative

```
Current mode : Barred list ◤

470 ▣▷      SIM                   List   Ok
```
☞ ▮

```
       911 – Blocked numbers

001▶004767244700
    0044816865701

470 ▣▷      SIM                          Ok
```
Alternative

```
Current mode : Dial from Book only

470 ▣▷      SIM                   Book   Ok
```
☞ ▮

☞ ▼
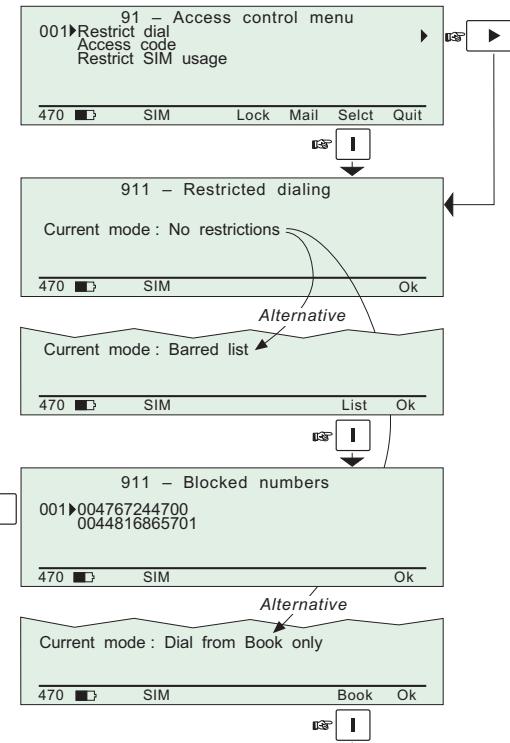
*Similar to **Phone book**, see this chapter.*

Restricted dialing setup (owner level only)

The "barred list" and the phone book are established as follows:

1 Press **Selct** or **right arrow**
via **Advanced functions**
to open the **Access
control menu**:   ☞ ▼

```
        91 – Access  control  menu
001▶Restrict dial                          ▶
    Access  code
    Restrict  SIM  usage

470 ▪◻              Lock   Mail   Selct   Quit
```
☞ ▶

☞ |

2 Pressing **Selct**
or **right arrow** again
opens the **Restricted
dialing** window which
shows the active list:

```
        911 – Restricted  dialing

Current  mode :  Barred  list

470 ▪◻                    Edit    List    Ok
```
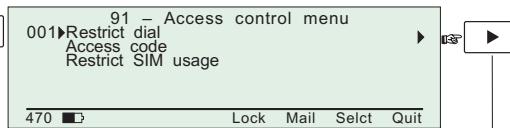
3 Press **Edit** to select
mode of restriction.
Scroll up/down   ☞ ▲
to select: ▼
**Selct** enters
chosen mode.

☞ | |

```
        911 –        Type  of  restriction
                  →Barred  list
                   Dial  from  Book  only
Current  mode :      No  restrictions

470 ▪◻                              Selct
```
☞ |
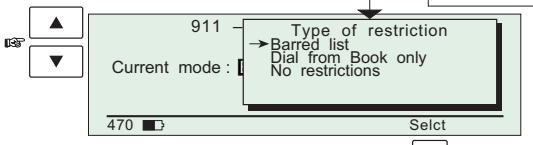
4 Pressing **List** displays
the blocked phone
numbers: ☞ ▼

```
        911 – Blocked  numbers
001▶0047800xxx
    0044816865701

470 ▪◻              Remov  Edit   New   Ok
```

5 Pressing **Edit**
allows the selected
number to be modified:

☞ | |

The field is empty when
pressing **New** to add
a phone number to the
barred list.
Remove deletes number.
Save stores the changes.

*Empty
field when
pressing
New*

```
        911 – Blocking  number
▶Barred  root :  0047800

470 ▪◻              ◀Del            Save
```
☞ |
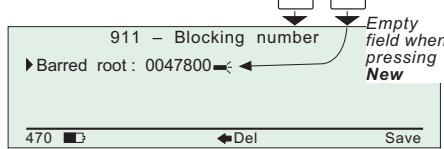
6 When the restriction
mode "Dial from Book
only" is selected,
pressing **Book** allows
short numbers to be entered:

```
        911 – Restricted  dialing

Current  mode :  Dial  from  Book  only

470 ▪◻                    Edit   Book   Ok
```
☞ |

NB! Remember to revert to user level.   *Similar to **Phone book**
See this chapter.*

Access control cont'd
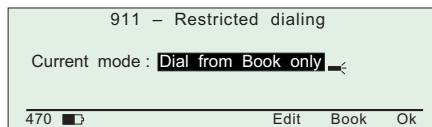
Access code

When the access code function has been enabled, the user is prompted for a 1 - 8 digit personal code when making a call.

The code opens the WorldPhone for one call. Up to 25 authorized users can be allocated access codes.

The function is active for non-SIM use and for one specific SIM card, *see "Restricted SIM usage"*. It applies to all ports of the WorldPhone.

The access code can only be entered from owner level, see next page.

Making a call:

1 At hook-off or when attempting to dial a phone number from the main window, the **Access code login** window opens, prompting the user to enter the access code:

```
                              20 Sep 1998  12:58
Telenor in AOR–E
Enter access code to call

470  ▢      SIM              Menu  Seek
```

```
              Access code login
▶Access code: *******▬‹

470  ▢      SIM      ◀Del  Phone  Fax  Data
```

☞ | I | | I | | I |

See Making a call in this chapter.

2 Pressing **Phone** opens the window for entering the phone number:

```
▶Number:

 Net provider: Telenor
 Terrestrial network:  0

470  ▢      SIM      ◀Del    Book
```

Pressing **Fax** or **Data** shows which users are allowed to make a telefax or data call:

or data call

```
              Ready for fax call
Telephone is opened for User1
Please proceed with call.

470  ▢      SIM                      Quit
```

Checking the setup:

☞ | I |

1 Press **Selct** or **right arrow** via **Advanced functions** to open the **Access control menu**:

☞ | ▼ |

```
          91 – Access control menu
          Restrict dial
002▶Access code                      ▶
          Restrict SIM usage

470  ▢      SIM      Lock  Mail  Selct  Quit
```

☞ | ▶ |

2 Pressing **Selct** or **right arrow** again opens the window which indicates whether **Access code** is **Enabled** or **Disabled**:

☞ | I |

```
          912 – Access code
▶Access code: Enabled

470  ▢      SIM                      Ok
```
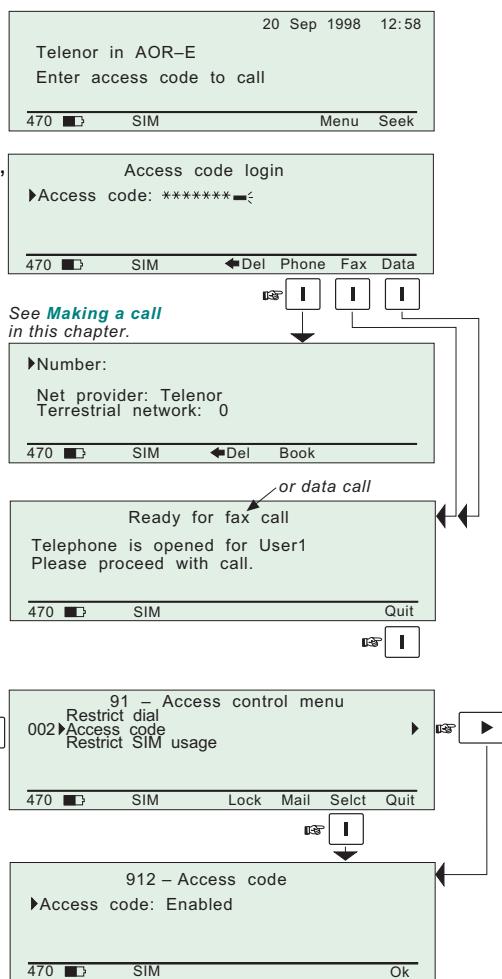
Calling from external phone

1 Lift handset; enter access code + "#" on external phone.

2 If access code is accepted, a dial tone is heard and the number to be dialed can be entered. Press "#" to initiate the call.

Access code setup (owner level only)

Access code is edited or entered as follows:

1 Press **Selct** or **right arrow** via **Advanced functions** to open the **Access control menu**: ☞ ▼

```
          91 – Access control menu
     Restrict dial
002▶Access code                          ▶
     Restrict SIM usage


470 ◼▭                    Lock  Mail  Selct  Quit
```
☞ ▶
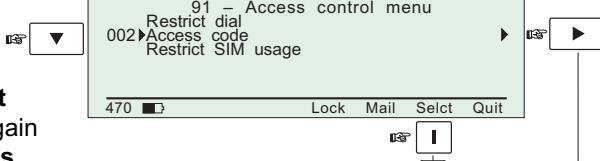
2 Pressing **Selct** or **right arrow** again opens the **Access code** window:
Pressing **Enab/Disab** enables/disables the access code function.

☞ |

```
          912 – Access code
▶Access code: Enabled ◄



470 ◼▭              Setup  Enab  Disab  Ok
```
☞ | | |
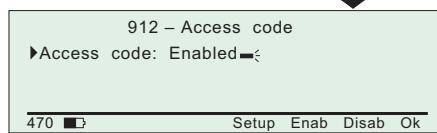
3 Pressing **Setup** displays the list of authorized users: ☞ ▼

```
          Access codes
001▶User1
     User2


470 ◼▭              Remov  Edit  New  Quit
```
☞ | |

Scroll down to wanted user and press **Edit** to modify the code, or press **New** to add a user to the list:

Use **Del** to modify. Press **ABC** or **abc** to enter uppercase/ lowercase letters as required.

*Starts with empty name field when pressing **New**. Code is prompted when name is entered.*

```
          Access code edit
  Name: Abc ◄
▶Code: ******* ◄

470 ◼▭          ◄Del  ABC  abc  Ok
```
☞ | | | |

Ok stores the modified user name.

NB! Remember to revert to user level.
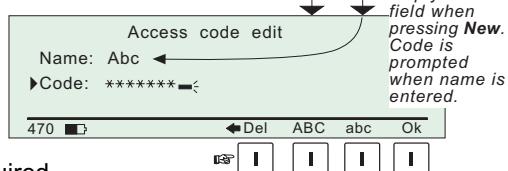
Restricted SIM usage

Allowed SIM

The WorldPhone can be set to operate from:

- one specific SIM card. Any other SIM users will be rejected.
- no SIM card. All SIM users will be rejected.
- any SIM card.

Restricted SIM

The restrictions "Restrict dial" and "Access code" can be set to be active for:

- one specific SIM card (in addition to non-SIM usage)
- no SIM card (only active for non-SIM usage).

*The setting can only be made from owner level, see **Setting SIM restrictions**. See also **Restricted dialing** and **Access code**.*

When restricted to SIM provider

The service provider can lock the WorldPhone to a specific type of card, e.g. a "MOBIQ" SIM card. The restrictions will then be   :

- any "MOBIQ" SIM card.
- one specific "MOBIQ" card.
- no SIM card at all.

Access control cont'd

Checking SIM restrictions

1 Press the **Menu** function key and scroll down to **Advanced functions**:
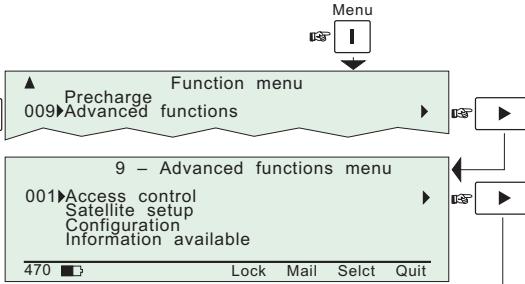
```
Menu
☞ |

▲              Function menu
    Precharge
009▶Advanced functions              ▶    ☞ ▶
```

```
        9 – Advanced functions menu
001▶Access control                  ▶    ☞ ▶
    Satellite setup
    Configuration
    Information available
470 ▭▭         Lock  Mail  Selct  Quit
```

2 Press **Selct** or **right arrow** to open the **Access control menu**:

```
☞ |

        91 – Access control menu
003▶Restrict SIM usage              ▶    ☞ ▶


470 ▭▭         Lock  Mail  Selct  Quit
```

3 Pressing **Selct** or **right arrow** again opens the **SIM restrictions** window:

```
☞ |

        913 – SIM restrictions
Allowed SIM:    Any
Restricted SIM: No restrictions
SIM provider Id: 8012
470 ▭▭                           Ok
```

Alternatives: see below

```
        913 – SIM restrictions
Allowed SIM:    Locked to one
Card number:    89013000513658144571
Restricted SIM: Locked to one
Card number:    89013000513658144571
SIM provider Id: 8012
470 ▭▭      SIM                  Ok
```
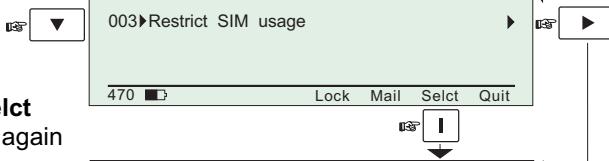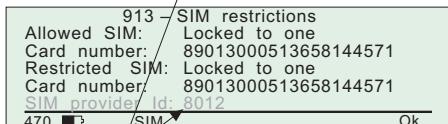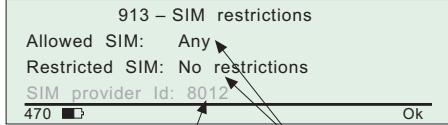
Appears if card is locked by SIM provider

Alternative restrictions:

*When **Allowed SIM** is set to:*

- **Any**, no restrictions apply
- **No SIM**, SIM cards are not accepted.
- **Locked to one**, one specific card is allowed.

*When **Restricted SIM** is set to:*

- **No restrictions**, Access code and Restricted dial only apply for non-SIM operation.
- **Locked to one**, Access code and Restricted dial apply for non-SIM operation and operation with the specified SIM card.

Access control cont'd

Setting SIM restrictions (owner level only)

**1** Press **Selct** or **right arrow** via **Advanced functions** to open the **Access control menu**: ☞ ▼

```
              91 – Access control menu
003▶Restrict SIM usage                           ▶      ☞  ▶

470 ▭▭                              Lock   Mail   Selct   Quit
```

☞ |

2 Pressing **Selct** or **right arrow** again opens the **SIM restrictions** window:

```
              913 – SIM  restrictions
▶Allowed SIM:      Any ◄
 Restricted SIM: No restrictions
```

* Restricted SIM:

3 Scroll down to **Restricted SIM**: ☞ ▼

```
              913 – SIM  restrictions
 Allowed  SIM:     Any
▶Restricted  SIM: No  restrictions ◄

470 ▭▭                              Lock          Open   Ok
```

☞ | |

4 Press **Lock** and insert the actual SIM card.
The WorldPhone can now be operated with that specific card only:

```
              913 – SIM  restrictions
 Allowed  SIM:     Any
▶Restricted  SIM:  No  restrictions ◄
 Please  insert  the  actual  SIM  card.
470 ▭▭
```

```
              913 – SIM  restrictions
 Allowed  SIM:     Any

▶Restricted  SIM: No  restrictions ◄
 Card  number:   8980120000166470336
 Please  retract  the  SIM  card.
470 ▭▭
```

When retracting the card, the Id of the SIM provider is displayed:

```
              913 – SIM  restrictions
 Allowed  SIM:     Any

▶Restricted  SIM: Locked  to  one ◄
 Card  number:   8980120000166470336
 SIM  provider  Id: 8012
470 ▭▭                              Lock          Open   Ok
```

Ok stores the settings.

Appears if card is locked by SIM provider

* Allowed SIM:

Follow the same procedure as for **Restricted SIM** with the marker remaining at **Allowed SIM.**

General

Allows preprogramming of **default Net service provider**, **S/A operator** (Stand Alone operator) and **terrestrial network** for each satellite region (Ocean Region).

Net service provider and terrestrial network

1 Press the **Menu** function key and scroll down to **Advanced functions**: ☞

Menu
☞ ⏺

```
▲                  Function menu
      Precharge
009▶Advanced functions              ▶
```
☞ ▶
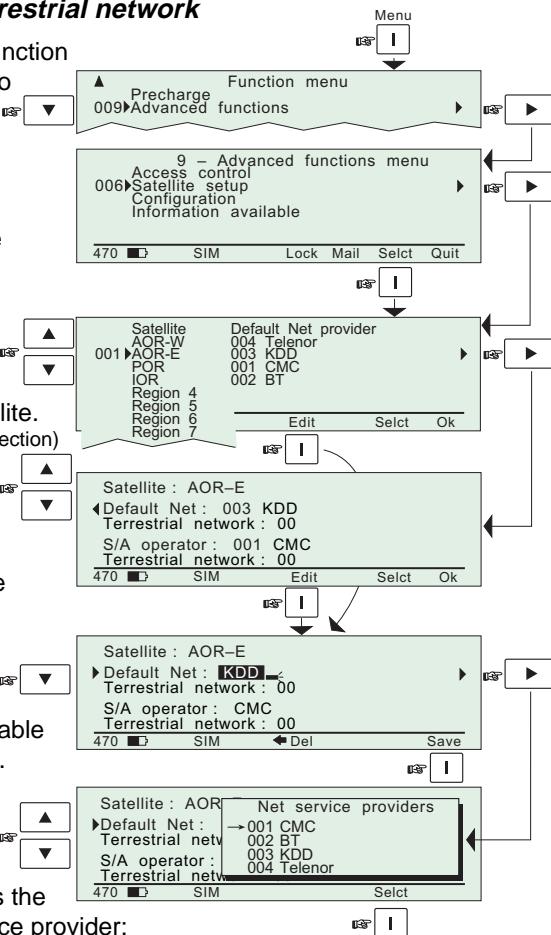
2 Pressing **Selct** or **right arrow** opens the list of Satellites and Default Net providers. Scroll up/down to wanted satellite: ☞

```
         9 – Advanced functions menu
      Access control
006▶Satellite setup                 ▶
      Configuration
      Information available

470 ◼▯     SIM     Lock Mail Selct Quit
```
☞ ▶

☞ ⏺

Selct initiates search for the specified satellite. (and a new spot beam selection)

Right arrow displays satellite info: ☞

▲ ▼

```
      Satellite    Default Net provider
      AOR-W        004 Telenor
001▶AOR-E         003 KDD            ▶
      POR          001 CMC
      IOR          002 BT
      Region 4
      Region 5
      Region 6
      Region 7           Edit   Selct   Ok
```
☞ ▶

☞ ⏺

▲ ▼

```
Satellite : AOR-E
◀Default Net : 003 KDD
  Terrestrial network : 00

  S/A operator : 001 CMC
  Terrestrial network : 00
470 ◼▯     SIM        Edit   Selct   Ok
```

3 **Edit** opens the setting window for the selected satellite:

☞ ⏺

4 **Right arrow** opens the list of available Net service providers.

☞ ▼

```
Satellite : AOR-E
▶Default Net : ▨KDD▨◤
  Terrestrial network : 00           ▶

  S/A operator : CMC
  Terrestrial network : 00
470 ◼▯     SIM        ← Del        Save
```
☞ ▶

☞ ⏺

5 Scroll up/down to wanted Net: ☞

▲ ▼

```
Satellite : AOR      Net service providers
▶Default Net :     → 001 CMC
  Terrestrial netw    002 BT
  S/A operator :      003 KDD
  Terrestrial netw    004 Telenor
470 ◼▯     SIM                     Selct
```

Pressing **Selct** enters the new default Net service provider: ☞

☞ ⏺

6 Return to step 4, scroll down and key in Terrestrial network code. **Save** stores the selected Net service provider and Terrestrial network as the default for that particular satellite.

S/A operator and terrestrial network

Repeat steps 4 - 6 for selection of S/A operator and terrestrial network.

Port configuration

- Displays current configuration. *Reconfiguration can be made in "**owner**" level only (non-SIM operation).*
- With **Broadcast** On, incoming calls initiate ringing on all ports configured for voice communication.
- The secure voice function allows selected port(s) to be used with encrypted telephone. *See **appendix E – Secure voice option**.*

Configuration

Example

1 Press the **Menu** function key and scroll down to **Advanced functions**:

```
                          Menu
                       ☞  I
                          ▼
▲              Function  menu
     Precharge
009▶Advanced  functions              ▶   ☞  ▶
                    
470 ▢          Lock   Mail   Selct   Quit
```

2 Press **Selct** or **right arrow** and scroll down to **Configuration**:

```
                       ☞  I
                          ▼
▲         9 – Advanced  functions  menu  ◀
     Satellite  setup
007▶Configuration                    ▶   ☞  ▶
     Information  available
470 ▢          Lock   Mail   Selct   Quit
```

3 **Selct** or **right arrow** opens the **Configuration menu**:

```
                       ☞  I
                          ▼
           97 – Configuration  menu       ◀
001▶Port  configuration               ▶   ☞  ▶
     Net  service  providers
     Power  conservation
     Set  diagnostics
     Set  preferred  Nets
470 ▢          Lock   Mail   Selct   Quit
```
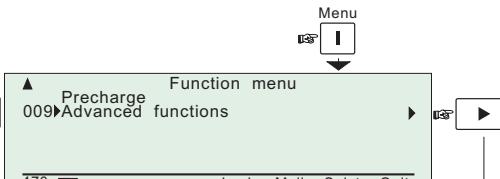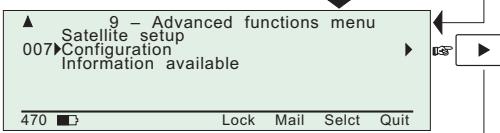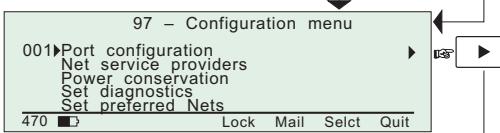
4 Pressing **Selct** or **right arrow** again displays the **Port configuration** window which shows the present service of the ports, and the incoming call response.

```
                       ☞  I
                          ▼
         Service   Secure  voice          ◀
Handset:  Voice
TEL:      Voice    Enabled
FAX:      Fax
Broadcast: Off
470 ▢                               Ok
```

```
                       ☞  I
```
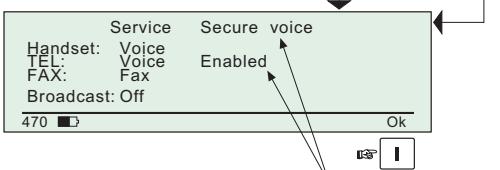
*For enabling/disabling of secure voice, see **appendix E**.*

Secure voice appears when bought.

*For port details, see **appendix B – Connecting up optional equipment**.*

Net service providers

Each Net service provider has a station code. The "Net service provider" window displays a list which matches the codes to the station owners. *Names can be edited in "**owner**" level (non-SIM operation).*

Example:

1 Press the **Menu** function key and scroll down to **Advanced functions**:   ☞ ▼
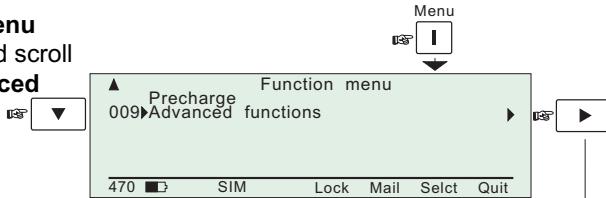
Menu
☞ | I |

```
▲                    Function menu
       Precharge
009▶Advanced functions                      ▶     ☞ ▶



470 ▭     SIM        Lock   Mail   Selct   Quit
```

2 Press **Selct** or **right arrow** and scroll down to **Configuration**: ☞ ▼

☞ | I |

```
▲           9 – Advanced functions menu     ◀
       Satellite setup
007▶Configuration                           ▶     ☞ ▶
       Information available


470 ▭     SIM        Lock   Mail   Selct   Quit
```
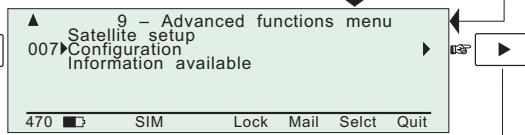
3 **Selct** or **right arrow** selects the **Configuration menu**: Press **Selct** or **right arrow** again for **Net service providers**.

☞ | I |

```
▲              97 – Configuration menu       ◀
       Port configuration
002▶Net service providers                    ▶     ☞ ▶
       Power conservation
       Set diagnostics
       Charge tone
       Set preferred Nets
470 ▭     SIM        Lock   Mail   Selct   Quit
```
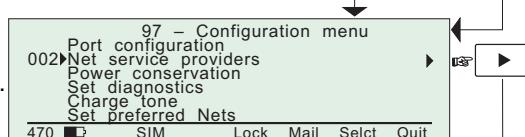
4 Scroll up/down to wanted service provider:

```
▲          972 – Net service providers        ◀
       KDD
004▶Telenor
       Indosat
       France Telecom
       Station 12
▼    Teleglobe IDB
470 ▭     SIM                               Ok
```

Power conservation

Battery power can be conserved during voice calls and/or telefax calls. The conservation can be enabled for voice and/or telefax. When set in **Auto** mode, the conservation facility is automatically enabled when using the internal battery supply and disabled when connected to an external power supply.
The speech quality at the remote end may be slightly impaired with power conservation enabled.

Example

1 Press the **Menu** function key and scroll down to **Advanced functions**:
Press **Selct** or **right arrow** and continue down to **Configuration**:

☞ Menu
☞ I

```
                    Function  menu
      Precharge
009▶Advanced  functions                        ▶
```
☞ ▼   ☞ ▶

```
▲              9 – Advanced  functions menu
       Satellite  setup
007▶Configuration                              ▶
       Information  available


470 ▬▭        SIM          Lock  Mail  Selct  Quit
```
☞ ▼   ☞ ▶

2 **Selct** or **right arrow** selects the **Configuration menu**:

☞ I

3 Scroll down and press **Selct** or **right arrow** to open the **Power conservation** window:

☞ ▼

```
             97 – Configuration  menu
       Net  service  providers
003▶Power  conservation                        ▶
       ▶Set  diagnostics                        ▶
       Charge  tone
       Set  preferred  Nets
       Set  S/A  preferred  Nets
470 ▬▭        SIM          Lock  Mail  Selct  Quit
```
☞ I

4 **Enable**/**Disable** power reduction during voice/fax calls, as required.
Auto reduces drain when using battery.
Save stores new entries or modifications:

☞ ▼

```
             973 – Power  conservation

   ▶Voice:   Enabled
   ▶Fax:     Disabled

470 ▬▭        SIM            Auto  Enab  Disab  Save
```
☞ I I I I
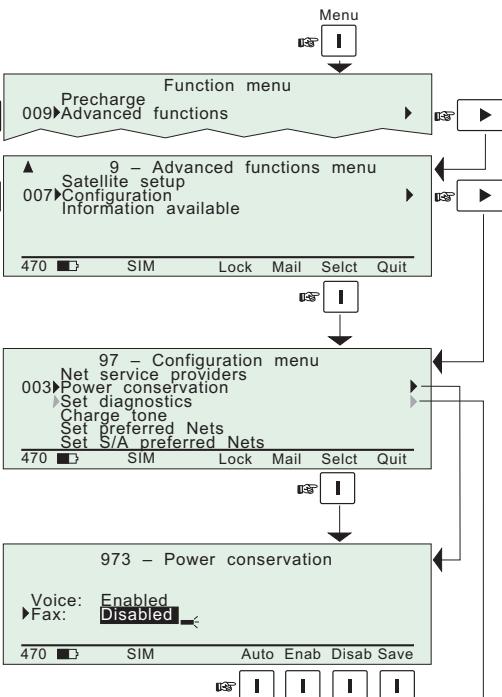
Set diagnostics

Additional system information is displayed when diagnostics is turned **On**.
Note! Not necessary for normal telephone usage.

```
             974 – Set  diagnostics

   ▶Set  diagnostics:  Off

470 ▬▭        SIM                  On    Off    Ok
```
☞ I I I

WorldPhone – Chapter 2. Operation   **2.55**
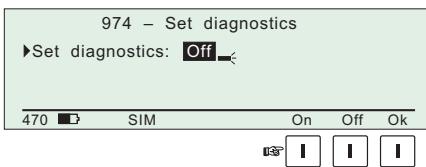
Storing of Preferred/Allowed Net service provider and Stand Alone operator on the SIM Card

These functions allow you to store the **preferred** and **allowed Net service provider** and **preferred** and **allowed Stand Alone operator** for each satellite region on a SIM card. *Note! The access level required to operate the functions depend on the SIM card supplier.*

Preferred Net service provider

1 Press the **Menu** function key and scroll down to **Advanced functions**: ☞ ▼

Menu
☞ Ⅰ

```
▲                    Function menu
        Precharge
009▶Advanced  functions                      ▶
470 ▭       SIM        Lock   Mail   Selct   Quit
```

☞ ▶

2 Press **Selct** or **right arrow** and scroll down to **Configuration**: ☞ ▼

☞ Ⅰ

```
▲              9 – Advanced  functions  menu
        Satellite  setup
007▶Configuration                            ▶
        Information  available
470 ▭       SIM        Lock   Mail   Selct   Quit
```

☞ ▶
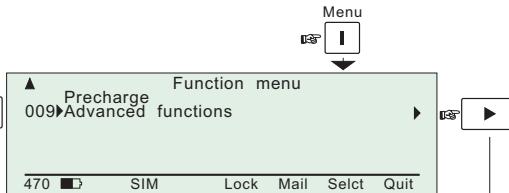
3 **Selct** or **right arrow** selects the **Configuration menu**: Scroll down to **Set preferred Nets**: ☞ ▼
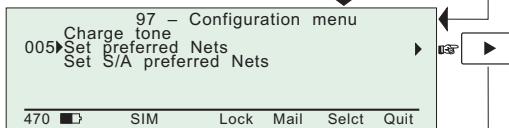
Selct or **right arrow** opens the list of **Set preferred Net** providers.

☞ Ⅰ

```
              97 – Configuration  menu
        Charge  tone
005▶Set  preferred  Nets                      ▶
        Set  S/A  preferred  Nets
470 ▭       SIM        Lock   Mail   Selct   Quit
```

☞ Ⅰ

Scroll up/down to wanted satellite: ☞ ▲ ▼

```
              975 – Set  preferred  Nets
        AOR-W
001▶ AOR-E                                    ▶
        POR
        IOR
        Region  4
        Region  5
        Region  6                     Selct    Ok
        Region  7
```

☞ ▶
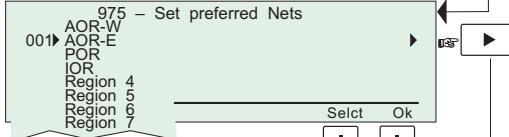
4 **Selct** or **right arrow** shows the current Net and TNID for the selected satellite: ☞ ▼

(TNID=Terrestrial Network Identification Digits)

Remove deletes the the Net entry.

More information (preferred Net for selected satellite)

```
              975 – Set  preferred  Nets  AOR–E
001▶BT                  TNID:   00
        CMC                  TNID:   09
        Telenor              TNID:   44
470 ▭       SIM        Remov  Edit            Ok
```

☞ Ⅰ Ⅰ Ⅰ Ⅰ
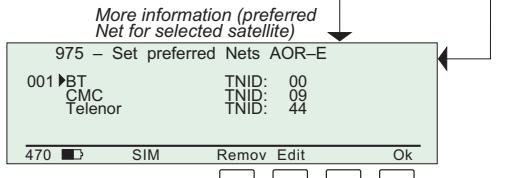
Removes entry from list ⟶   ⟶ *See next page*

Configuration cont'd

5 **Edit** opens list
of available Nets:
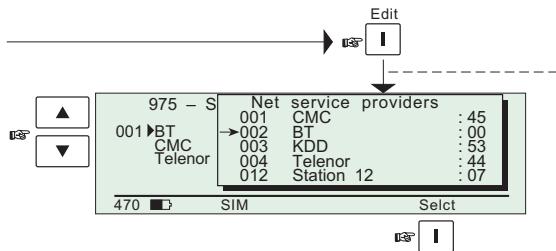
Edit
☞ | I |

6 Scroll up/down
to wanted Net:

▲
☞
▼

```
975 – S    Net service providers
          001  CMC           : 45
001 ▸BT    →002  BT           : 00
   CMC     003  KDD          : 53
   Telenor 004  Telenor      : 44
          012  Station 12    : 07

470 ▭     SIM              Selct
```

Selct enters new
default Net service
provider:

☞ | I |

If the SIM card is not "restricted":

5b **Edit** opens **satellite
preferred list** window:

```
          AOR-E preferred list (1)

▸Net provider: Telenor                    ▸
 Terrestrial network: 00

470 ▭     SIM              Selct
```

☞ | ▶ |

Selct or **right arrow**
opens list of available
Nets.

☞ | I |

6b Scroll up/down
to wanted Net:

▲
☞
▼

```
975 – S    Net service providers
          001  CMC
001 ▸BT    →002  BT
   CMC     003  KDD
   Telenor 004  Telenor
          012  Station 12

470 ▭     SIM              Selct
```

Selct enters new
default Net service
provider:

☞ | I |
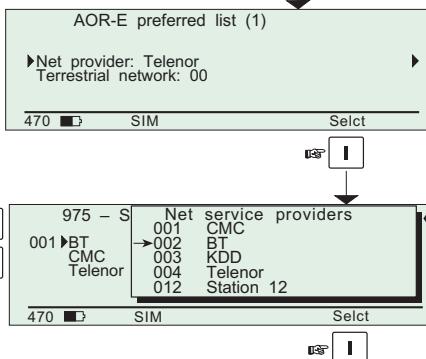
Configuration cont'd

Set S/A preferred Net (Stand Alone operator)

Repeat steps 3 through 6.

Set allowed Nets / Set S/A allowed Nets

*Restricted to "**CHV2**" or higher, depending on Net service provider.*
Repeat steps 3 through 6.

Charge tone

When the charge tone function is enabled, a single frequency tone or DTMF is transmitted once the call has been established. The tone informs an external debiting system, f.ex. a pay phone (connected to the TEL port), that charging can start.
*Settings can only be made in **owner** level.*

Setup:

1 Press the **Menu** function key and scroll down to **Advanced functions**:

☞ ▼

Menu
☞ ▐ ▌

```
                    Function menu
         Precharge
009▶Advanced  functions                        ▶
```
☞ ▶

```
▲        9 – Advanced  functions  menu
         Satellite  setup
007▶Configuration                              ▶
         Information  available


470 ▭▯          Lock   Mail  Selct  Quit
```
☞ ▼   ☞ ▶

2 **Selct** or **right arrow** opens the **Configuration Menu**:

☞ ▐ ▌

```
              97 – Configuration  menu
         Set  diagnostics
009▶Charge  tone                               ▶


470 ▭▯          Lock   Mail  Selct  Quit
```
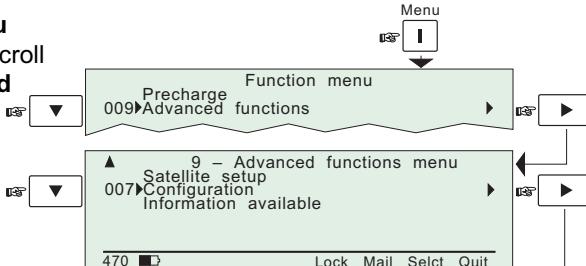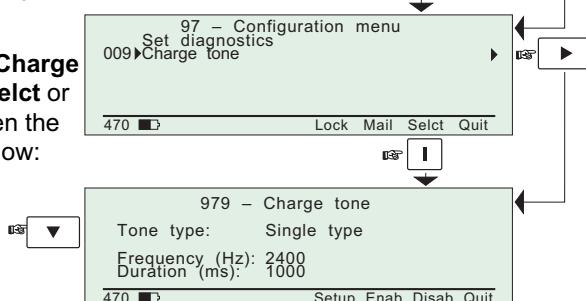
3 Scroll down to **Charge tone**, and press **Selct** or **right arrow** to open the **Charge tone** window:

☞ ▶

☞ ▐ ▌

```
              979 – Charge  tone

     Tone  type:           Single  type

     Frequency  (Hz): 2400
     Duration  (ms):   1000
470 ▭▯            Setup  Enab  Disab  Quit
```
☞ ▼
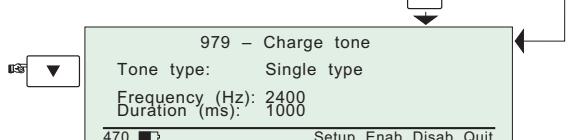
4 Selecting **Setup** opens the **Charge tone setup** window, which allows setting the required single frequency tone or DTMF, and its duration in milliseconds.

☞ ▐ ▌

```
            Charge  tone  setup

     ▶Tone  type:         Single  type         ▶

     Frequency  (Hz): 2400
     Duration  (ms):   1000
470 ▭▯                      Edit        Save
```
☞ ▼   ☞ ▶
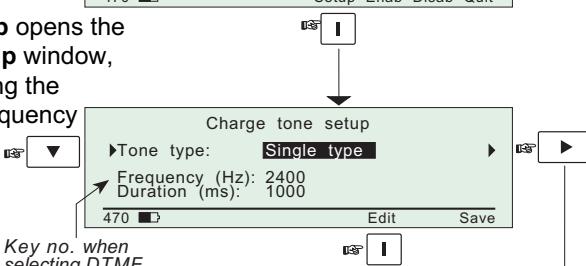
Key no. when selecting DTMF.

☞ ▐ ▌

Valid settings:
Frequency: 400 - 3400 Hz
Duration: 10 - 5000 ms
DTMF key: 0 - 15

▲
☞
▼

```
            Available  tone  types

      → Single  tone
         DTMF


                            Selct
```
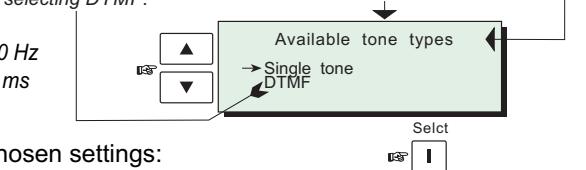
Selct enters the chosen settings:

☞ ▐ ▌

General

The following information and facilities are provided:

- The IMN numbers assigned to the WorldPhone.
  Access level must be set to "owner" or "CHV2" for editing of the numbers on the telephone or SIM card respectively.
- Forward ID number which identifies your particular WorldPhone and SIM card if installed.
- System version numbers of the internal software programs. *See next page.*
- Restoring communication with the satellite when receiving the alarm: **Not available***, see "Oscillator compensation" on next page. (The function only appears when "Set diagnostics" is **On**).*
- Network status information *(only appears when "Set diagnostics" is **On**, or the access level is set to "owner"), see next page.*

IMN numbers

1 Press the **Menu** function key and scroll down to **Advanced functions**: Press **Selct** or **right arrow** and continue down to **Information available**:

2 **Selct** or **right arrow** opens the **Information available** window:

3 Pressing **Selct** or **right arrow** again opens the **IMN numbers** window:

☞ ▼

```
          98 – Information available
      IMN numbers
002▶Misc. version Id information        ▶
007▶Oscillator compensation            ▶
009▶Network status information         ▶
470 ▭    SIM       Lock  Mail  Selct  Quit
```
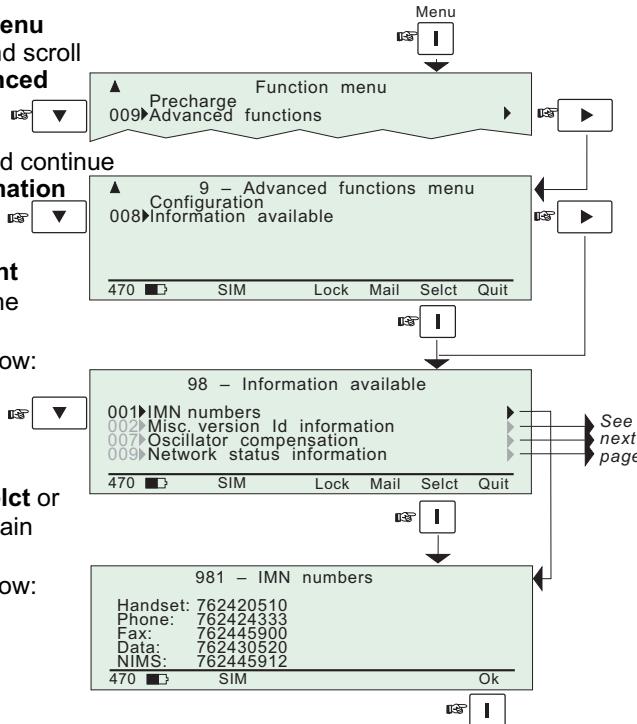
Misc. version ID information   ☞ I

4 Scroll down
and press **Selct** or
right arrow to open
Version information
window.

```
          982 – Version information
001▶Terminal forward Id
              ABCDF
    System version
          Rel. 4. 3. 2
          25 Aug 1998
470 ▭    SIM                            Ok
```
                                              ☞ I
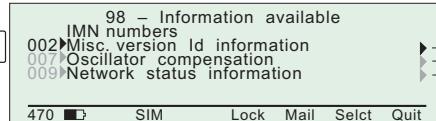
Oscillator compensation

5 Scroll down and press
Selct or **right arrow** to
open **Oscillator**
compensation window:

```
     987 – Oscillator compensation AOR - E
Default compensation :    Not defined
Field adjustment :        0.000 kHz
Current TDM offset :      Not available
                          - - - - - - - - -
Total compensation :      Not available
470 ▭    SIM       Scan  Update  Reset  Ok
```

Press **Scan** with the
antenna pointed towards
the satellite.
*(Pointing is automatic on
Marine & Voyager antennas.
Will take 10-15 minutes.)*

☞ I

```
     Possible oscillator offsets (IOR)
001▶Offset:    0.180 kHz (Active NCSC)



470 ▭    SIM            Selct
```

If several choices, scroll
down to preferred frequency. Press **Selct**: ☞ I

When **Verification**
succeeded is displayed,
press **Save** to update the
WorldPhone oscillator.

```
Verification succeeded
The selected NCSC candidate seems to
be correct.

To accept this frequency and use it in
the future, press "Save"
470 ▭    SIM                          Save
```
                                              ☞ I

Network status

6 Scroll down and
press **Selct** or **right**
arrow for readout
of network data.
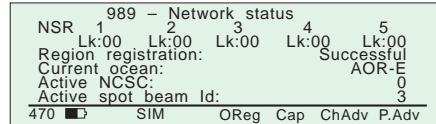
```
          989 – Network status
NSR   1      2      3      4      5
   Lk:00  Lk:00  Lk:00  Lk:00  Lk:00
Region registration:          Successful
Current ocean:                AOR-E
Active NCSC:                   0
Active spot beam Id:          3
470 ▭    SIM       OReg  Cap  ChAdv  P.Adv
```

Paid functions

Only appears in owner level (non-SIM operation).
An enhanced WorldPhone function is activated by entering the
"Opening key" provided when purchased:

☞ Menu ▯

1 Press the **Menu**
function key
☞ ▼
and scroll down
to **Advanced
functions**.
☞ ▼

```
                    Function menu
        Precharge
009▸Advanced  functions                    ▸
```
☞ ►

```
▲         9 – Advanced  functions  menu
        Information  available
009▸Install                                ▸

470 ▯           Lock   Mail   Selct   Quit
```
☞ ►
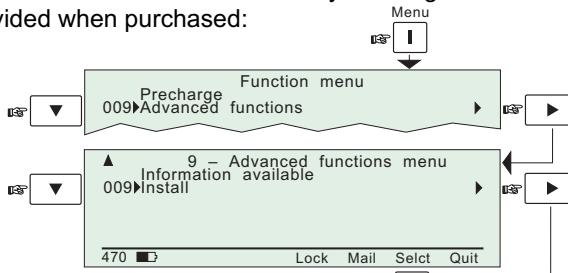
Installation

2 **Selct** or **right
arrow** opens
the **Installation
menu** window:
☞ ▼

☞ ▯

```
        99 – Installation  menu
001▸Paid  functions                        ▸
    ▸Phone  name  setup

470 ▯           Lock   Mail   Selct   Quit
```

3 Pressing **Selct**
or **right arrow** again
opens the **Paid
functions** window: ☞ ▼

☞ ▯

```
        991 – Paid  functions
001▸Charge  tone
002  Traffic  log
003  Precharge
004  Restricted  Net  provider
005  Restricted  dial
006  Secure  voice                New    Ok
007  Access  code
008  Data
009  Advanced  service  level
010  Fax
011  NIMS
012  Aero  functions
```
☞ ▯ ▯

*The list only shows
purchased functions.*
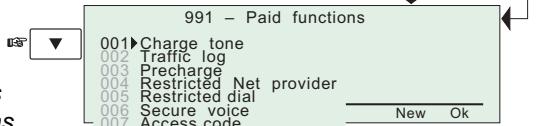
4 Pressing **New**
opens the **Open new
paid functions** window:
Enter the "Opening
key" and press **Ok**.

```
        991 – Open  new  paid  functions
▸Code:  1234 ◄

470 ▯            ◄Del              Ok
```
☞ ▯

Phone name setup

Only appears in owner level (non-SIM operation).
Repeat steps 1 and 2
to open **Phone name
setup** window: ☞ ▼
Use **Del** to modify.
Press **ABC** or **abc** to
enter uppercase/
lowercase letters as required.
Save stores the modified phone name.

```
        992 – Phone  name  setup
▸Factory  name:  Nera ◄
  Phone  name:   WorldPhone

470 ▯          ◄Del   ABC   abc   Save
```
☞ ▯ ▯ ▯ ▯

TELEFAX SERVICE

General

The WorldPhone provides access to a telefax service at a transmisson rate of 2.4 Kbps.

Limitations

The WorldPhone is fully compatible with the world's leading telefax machines and telefax software standards. However, transmission may not be possible through some of the telefax machines available on the market. Please check with your Net service provider before purchasing a telefax for use with the WorldPhone.

Installation

Connect the telefax cable to the **FAX** port on the WorldPhone telephone unit. *For wiring details, see* **appendix B – Connecting up optional equipment***.*

Verify that the FAX port is configured for telefax service, see **"Advanced functions: Port configuration"** *in chapter 2. Operation.*
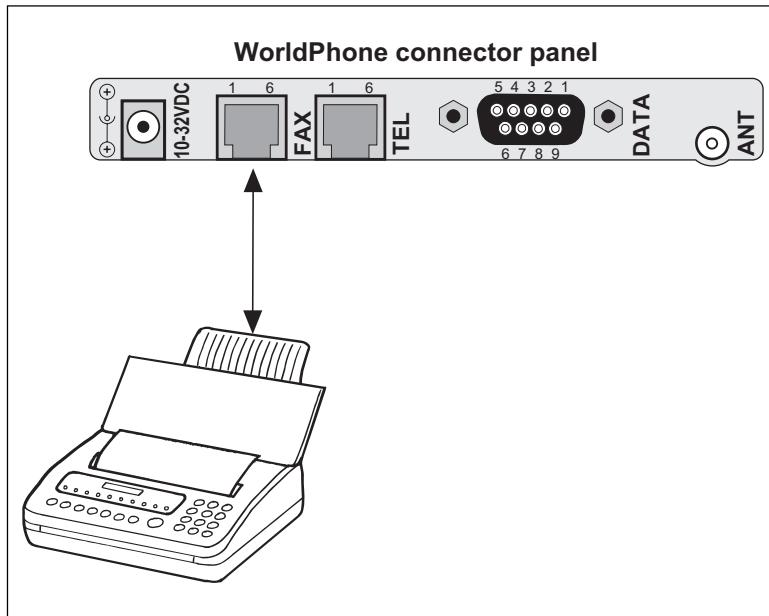
Figure 3.1 Telefax communication with the WorldPhone.

Using telefax with the WorldPhone

Transmission

Telefax calls made by the WorldPhone are *telefax only.* Any telephone handset connected to the telefax machine is for dialing purposes only.

To send a fax, use the same dialing sequence as when making a call, either through the default Net or a selected one.
See "Making a call" in chapter 2. Operation.

Note! On a telefax with keypad, enter $\boxed{\text{\#}}$ *as the last digit before starting transmission.*

Telefax transmissions normally take 1.5 minutes per standard text page using standard resolution. Using superfine or halftone resolution will double the transmission time. To save time, avoid using a separate cover page.

If a call failure should occur while sending a multi-page document, resend only the failed pages.

DATA SERVICE

General

The WorldPhone provides access to asynchronous data services through its built-in modem capability. The transmisson rate over the satellite is 2.4 Kbps, and any standard PC with a serial port can be used.
For configuration from the PC using AT commands, see appendix D.

Installation

Connect the RS-232 serial cable between the serial port on the PC and the 9-pin **DATA** port on the WorldPhone telephone unit.

For configuration,
see chapter 2. Operation: "Data/printer port setup".

For wiring details,
see appendix B – Connecting up optional equipment,
or appendix D – DTE interface.
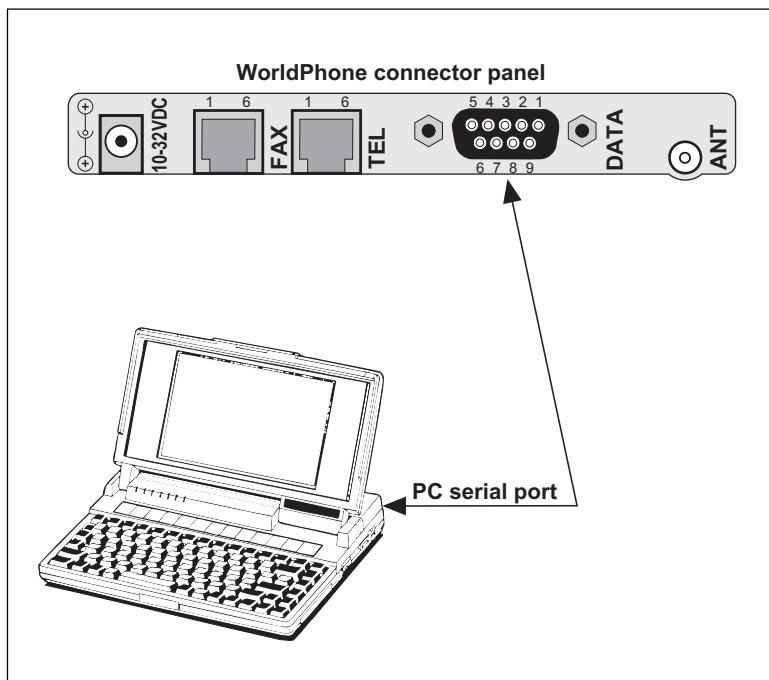
Figure 4.1 The PC is connected to the DATA port.

Setting up cont'd

Testing the installation

Use a PC terminal program.

Entering a command on the PC keyboard (f.ex. [A][T][↵R]) should cause "OK" to be displayed on the screen.

If there is no response, check that the baud rate setting is the same both for the PC and the WorldPhone.
See chapter 2. Operation: "Data/printer port setup".

APPENDICES

Explanation with examples:

*Mobile - to - fixed subscriber, telephone call through **default Net:***
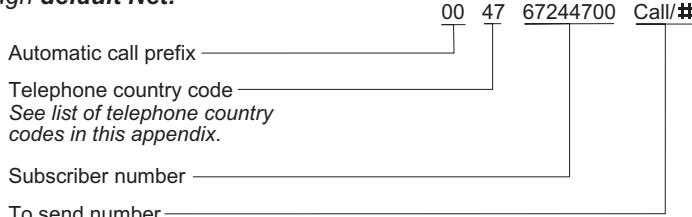
```
                                    00  47  67244700  Call/#
```

Automatic call prefix ──────────────┘

Telephone country code ──────────────────┘
See list of telephone country codes in this appendix.

Subscriber number ──────────────────────────┘

To send number ──────────────────────────────────┘

*Mobile - to - fixed subscriber, telephone call through **selected Net service provider:***

```
                              4 ✱  00  47  67244700  Call/#
```

Selection of e.g. Net service provider 004 ──────┘

Automatic call prefix ──────────────────┘

Telephone country code ──────────────────────┘
See list of telephone country codes in this appendix.

Subscriber number ──────────────────────────────┘

To send number ──────────────────────────────────────┘
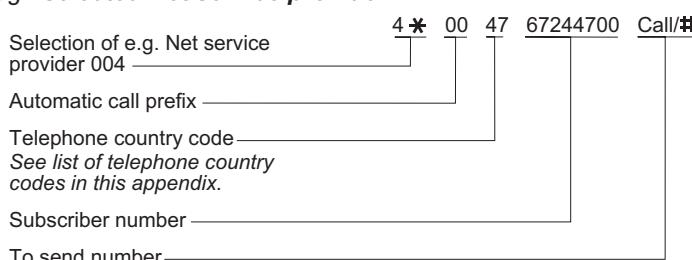
Fixed/mobile - to - Mobile telephone call:
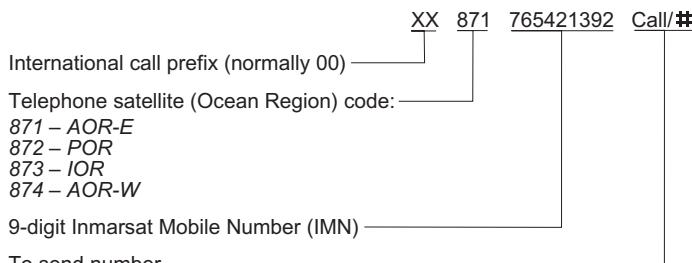
```
                                  XX  871  765421392  Call/#
```

International call prefix (normally 00) ──────┘

Telephone satellite (Ocean Region) code: ──────┘
871 – AOR-E
872 – POR
873 – IOR
874 – AOR-W

9-digit Inmarsat Mobile Number (IMN) ──────────────┘

To send number ──────────────────────────────────────┘

Note! Some Net service providers support the common Ocean Region access no. 870, which connects the call to the dialed WorldPhone regardless of the Ocean Region the user currently communicates through.

Telephone country codes

Afghanistan (Islamic State of) 93
Albania (Republic of) 355
Algeria (People's Democratic Republic of) 21 b1)
American Samoa 684
Angola (Republic of) 244
Anguilla .... 1 a)
Antigua and Barbuda .... 2 a)
Argentine Republic 54
Armenia (Republic of) .... 374 d)
Aruba 297
Ascension 247
Atlantic Ocean East Region (AOR-E) (Inmarsat) 871
Atlantic Ocean West Region (AOR-W) (Inmarsat) ... 874
Australia 61
Australian External Territories 672
Austria 43
Azerbaijani Republic 994

Bahamas (Commonwealth of the) .... 1 a)
Bahrain (State of) 973
Bangladesh (People's Republic of) 380
Barbados .... 1 a)
Belarus (Republic of) .... 375 d)
Belgium 32
Belize 501
Benin (Republic of) 223
Bermuda.. 1 a)
Bhutan (Kingdom of) 975
Bolivia (Republic of) 591
Bosnia and Herzegovina (Republic of) 387
Botswana (Republic of) 267
Brazil (Federative Republic of) 55
British Virgin Islands .... 1 a)
Brunei Darussalam 673
Bulgaria (Republic of) 859
Burkina Faso 226
Burundi (Republic of) 257

Cambodia 355
Cameroon (Republic of) 237
Canada .... 1 a)
Cape Verde (Republic of) 238
Cayman Islands .... 1 a)
Central African Republic 236
Chad (Republic of) 235
Chile 56
China (People's Republic of) .... 86 e)
Colombia (Republic of) 57
Comoros (Islamic Federal Republic of the) .. 269
Congo (Republic of the) 242
Cook Islands 682
Costa Rica.. 506
Croatia (Republic of) 385

Cuba... 53
Cyprus (Republic of) 357
Czech Republic .... 420 c)

Democratic People's Republic of Korea 850
Denmark... 45
Diego Garda 246
Djibouti (Republic of) 253
Dominican Republic .... 1 a)

Ecuador 593
Egypt (Arab Republic of) 20
El Salvador (Republic of) 503
Equatorial Guinea (Republic of) 240
Eritrea... 291
Estonia (Republic of) 372
Ethiopia 251

Falkland Islands (Malvinas) 500
Faroe Islands (Denmark) 298
Fiji (Republic of) 679
Finland 358
France .... 33 c)
French Poiynesia 68

Gabonese Republic 241
Gambia (Republic of the) 220
Georgia (Republic of) .... 7 d)
Germany (Federal Republic of) 49
Ghana 233
Gibraltar 350
Greece 30
Greenland (Denmark) 299
Grenada .... 1 a)
Guadeloupe (French Department of) 590
Guam 671
Guatemala (Republic of) 502
Guiana (French Department of) 594
Guinea (Republic of) 224
Guinea-Bissau (Republic of) 245
Guyana... 592

Haiti (Republic of) 509
Honduras (Republic of) 504
Hongkong.. 852
Hungary (Republic of) 36

Iceland... 354
India (Republic of) 91
Indian Ocean Region (IOR)(Inmarsat) 873
Indonesia (Republic of) 62
Iran (Islamic Republic of) 98
Iraq (Republic of) 964

Ireland 353
Israel (State of) 972
Italy 39
Ivory Cost (Republic of) 225

Jamaica .... 1 a)
Japan 81
Jordan (Hashemite Kingdom of) 962

Kazakhstan (Republic of) .... 7 d)
Kenya (Republic of) 254
Kiribati Republic of) 686
Kuwait (State of) 965
Kyrgyzstan (Republic of) .... 996 d)

Lao People's Democratic Republic 856
Latvia (Republic of) 371
Lebanon 961
Lesotho (Kingdom of) 266
Liberia (Republic of) 231
Libya (Socialist People's Ubyan Arab Jamahiriya) ... 21b2)
Liechtenstein (Principality of) .... 41 c)
Lithuania (Republic of) 370
Luxembourg 352

Macau 853
Macedonia (the former Yugoslav Republic of) .. 389
Madagascar (Republic of) 261
Malawi 265
Malaysia 60
Maldives (Republic of) 960
Mali (Republic of) 223
Malta 356
Marshall Islands (Republic of) 692
Martinique (French Department of) 596
Mauritania (Islamic Republic of) 222
Mauritius (Republic of) 230
Mexico 52
Micronesia (Federated States of) 691
Moldova (Republic of) 373
Monaco .... 377 c)
Mongolia 976
Montserrat .... 1 a)
Morocco (Kingdom of) .... 21b3)
Mozambique (Republic of) 258
Myanmar (Union of) 95

Namibia (Republic of) 264
Nauru (Republic of) 674
Nepal 977
Netherlands Antilles 599
Netherlands (Kingdom of the) 31
New Caledonia 687

New Zealand 64
Nicaragua............................... 505
Niger (Republic of the) 227
Nigeria (Federal Republic of) 234
Niue 683
Northern Mariana Islands (Commonwealth of the) .. 670
Norway 47

Oman (Sultanate of) 968

Pacific Ocean Region (POR)(Inmarsat) 872
Pakistan (Islamic Republic of) 92
Palau (Republic of) 680
Panama (Republic of) 507
Papua New Guinea 675
Paraguay (Republic of) 595
Peru 51
Philippines (Republic of the) 63
Poland (Republic of) 48
Portugal 351

Qatar (State of) 974

Reunion (French Department of) 262
Romania 40
Russian Federation .... 7 d)
Rwandese Republic 250

Saint Vincent and the Grenadines .... 1 a)
Saint Luda .... 1 a)
Saint Kitts and Nevis .... 1 a)
Saint Helena 290
Saint Pierre and Miquelon (French Department of) . 508
San Marino (Republic of) 378
Sao Tome and Principe (Democratic Repulic of) 239
Saudi Arabia (Kingdom of) 966
Senegal (Republic of) 221
Seychelles (Republic of) 248
Sierra Leone 232
Singapore (Republic of) 65
Slovak Republic .... 421 c)
Slovenia (Republic of) 386
Solomon Islands 677
Somali Democratic Republic 252
South Africa (Republic of) 27
Spain 34
Sri Lanka (Democratic Socialist Republic of) . 94
Sudan (Republic of the) 249
Suriname (Republic of) 597
Swaziland (Kingdom of) 268
Sweden 46
Switzerland (Confederation of) .... 41 c)
Syrian Arab Republic 963

Telephone country codes

Appendix A – Telephone country codes cont'd

Tajikistan (Republic of) .... 7 d)
Tanzania (United Republic of) 255
Thailand 66
Togolese Republic 228
Tokelau 690
Tonga (Kingdom of) 676
Trinidad and Tobago (Code actually used: +1) .. 296
Tunisia .... 21b4)
Turkey 90
Turkmenistan .... 993 d)
Turks arid Caicos Islands .... 1 a)
Tuvalu 688

Uganda (Republic of) 256
Ukraine .... 380 d)
United Arab Emirates .... 971 h)
United States of America, + Puerto Rico, Virgin
Islands .... 1 a)
United Kingdom of Great Britain and Northern
Ireland 44

Uruguay (Eastern Republic of) 598
Uzbekistan (Republic of) .... 7 d)

Vanuatu (Republic of) 678
Vatican City State 379
Venezuela (Republic of) 58
Viet Nam (Socialist Republic of) 84

Wallis and Futuna 681
Western Samoa (Independent State of) 685

Yemen (Republic of) 967
Yugoslavia (Federal Republic of) 381

Zaire (Republic of) 243
Zambia (Republic of) 260
Zanzibar (Tanzania) 259
Zimbabwe (Republic of) 263

Notes
- a): Integrated numbering area.
- b1): Integrated numbering area with subdivisions: 213, 214 and 215 for Algeria.
- b2): Integrated numbering area with subdivisions: 218 and 219 for Libya.
- b3): Integrated numbering area with subdivisions: 210, 211, 212 (212 in service) for Morocco.
- b4): Integrated numbering area with subdivisions: 216, 217 for Tunisia.
- c): Integrated numbering plan.
- d): Will form part of numbering zone 7.
- e): Code 866 has been allocated to the province of Taiwan.
- h:): United Arab Emirates (U.A.E.) incl: Abu Dhabi, AJmna, Dubai, Fujeirah, Ras Al, Khaimah, Sharjah, Umm al Oaiwain.

Telephone country codes

Appendix A – Service address codes

Location of Antenna Unit

Avoid obstructions

The Antenna ideally requires a free line of sight in all directions above an elevation angle of 5 degrees.

Any obstruction will cause blind sectors, and may result in degradation or even loss of communication with the satellite.

Degrading of the communication is only completely avoided by placing the antenna higher than any obstructions. This is often not feasible and a compromise must be made to reduce the number of blind sectors.

The degree of communication degradation depends on the size of the obstructions; the distance to them must therefore be considered.

Preferably, all obstructions within 3 m of the antenna should be avoided. Obstructions less than 15 cm in diameter can be ignored beyond this distance.

Installation of Antenna Unit on top of mast must be avoided.

Compass safe distance

For installation on Norwegian or British vessels, the Antenna Unit should be located at a distance of at least 1.0 metre from the magnetic steering compass. Be aware that requirements may vary from one country to another.

Radiation precautions

Persons should not be near the antenna when transmitting for periods of more than 1 hour per day.

MICROWAVE RADIATION !
NO ADMITTANCE WITHIN 1 M
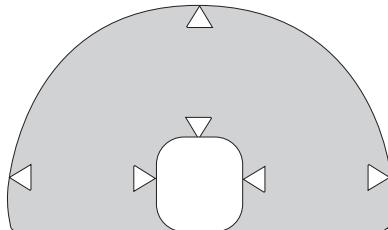
**Installation of
Marine Antenna**

Avoid interference

The Antenna Unit should be separated as far as possible from other communication and navigation antennas onboard such as Radar, Satellite, HF/VHF/UHF, GPS antennas etc.. Preferably by 5 metres.

The Antenna Unit should be installed so that severe vibration and shock are avoided. If installed on top of a pipe or signal/radar mast, the mast must be supported by stays.

The equipment is supplied with gasket and a flange for mounting of the Antenna Unit on top of a 42.4 mm outer diameter pipe.

Other installation bracket is optional.

Coax cable

A 12 metre coaxial cable type RG-223 (QRPM 911084-12000) is supplied as standard.
For greater lengths, see "Optional antenna cable".

The coax cable should be secured by laying the cable in a tube and/ or by fastening the cable to avoid damage.

Telephone Unit (TPU) and Power Supply (PS)

The PS is provided with holes for mounting on desktop or bulkhead with the TPU snapped on top of PS by fastening clips.

The TPU may be installed separately by using 3 metre extension cables between PS and TPU:

• coaxial cable, QRPM 911087-3000
• DC cable, QRPM 911079-3000

Source of energy

The equipment operates from 10 to 32 Volts DC from any 12V or 24V battery.
Power supply for operation from 230 VAC may be supplied as an option, QBMJ 101002.

Note! *The antenna has been delivered with 3 different types of radomes. The latest version (type 3) is mounted as illustrated on page B-4.*

The earlier versions (type 1 and 2) are mounted as shown on page B-6. Be aware of the condensation drainage through the area around the coax connector for these versions, see illustration.

Connecting up

Radome
type 3

N-connector

Delivered with approx. 50 cm coax cable for connection to antenna

N-connector

ADE
Above Deck Equipment
. . . .

BDE
Below Deck Equipment

Antenna coax cable
Standard:
type RG223
Length 12 m.
For greater lenghts, see
*"**Optional antenna cable**".*

WorldPhone
Telephone Unit
TPU

Power
Supply
PS

RF cable to/from
WorldPhone
QRPM 911081-0150
Length: 15 cm

Power cable type
QRPM 911080-2000
10 - 32V DC

Power cable to WorldPhone
QRPM 911079-0150
Length: 15 cm

NB! Polarity dependent:
The positive lead is tagged.
(The NEGATIVE pole is connected
to the CENTRE PIN of the 3-pin plug.)
Fuse: 15 A slow blow

Installation of Marine
Antenna cont'd

Appendix B – Installation of *Marine Antenna* cont'd

Mounting the Antenna Unit with radome type 3

Procedure:

Thread coax cable through sockets and tube prior to final assembling and installing Antenna Unit

Radome type 3

Apply silicone compound

Note! Condensation drainage. *Do not cover!*

Gasket

Hexagon screws/ washers (6)

Mounting flange

Lock screw (2) *Use 6 mm unbrako key*

Mounting flange dimensions:

72

Dia 7

85.5

55

Tube (option) Outer dia 42.4
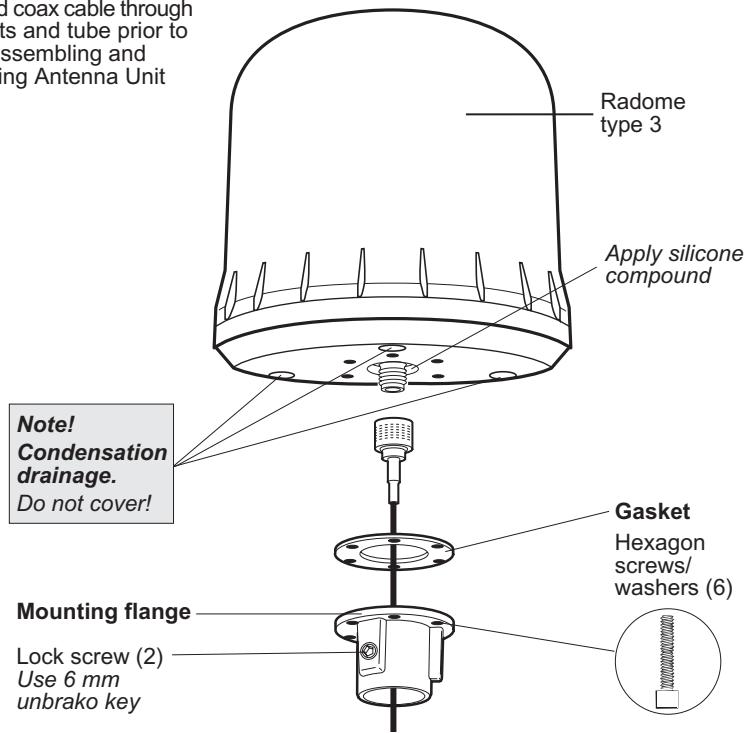
DIMENSIONS IN MILLIMETRES
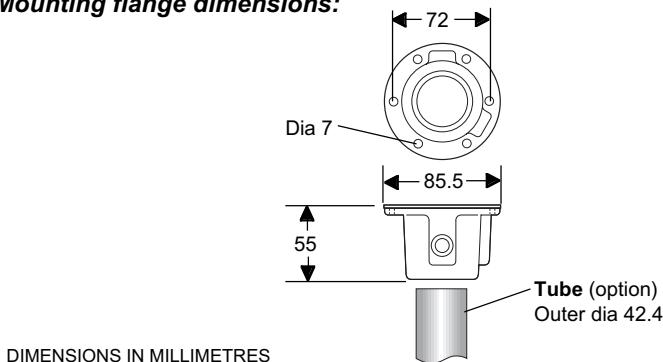
Mounting the radome top of radome type 3

1 Place gasket on radome base.
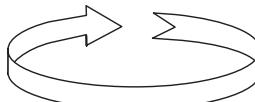
2 Lower radome top down onto the base with alignment mark across for alignment area on the base.

3 Turn radome top approx 30° clockwise until the snap function locks.
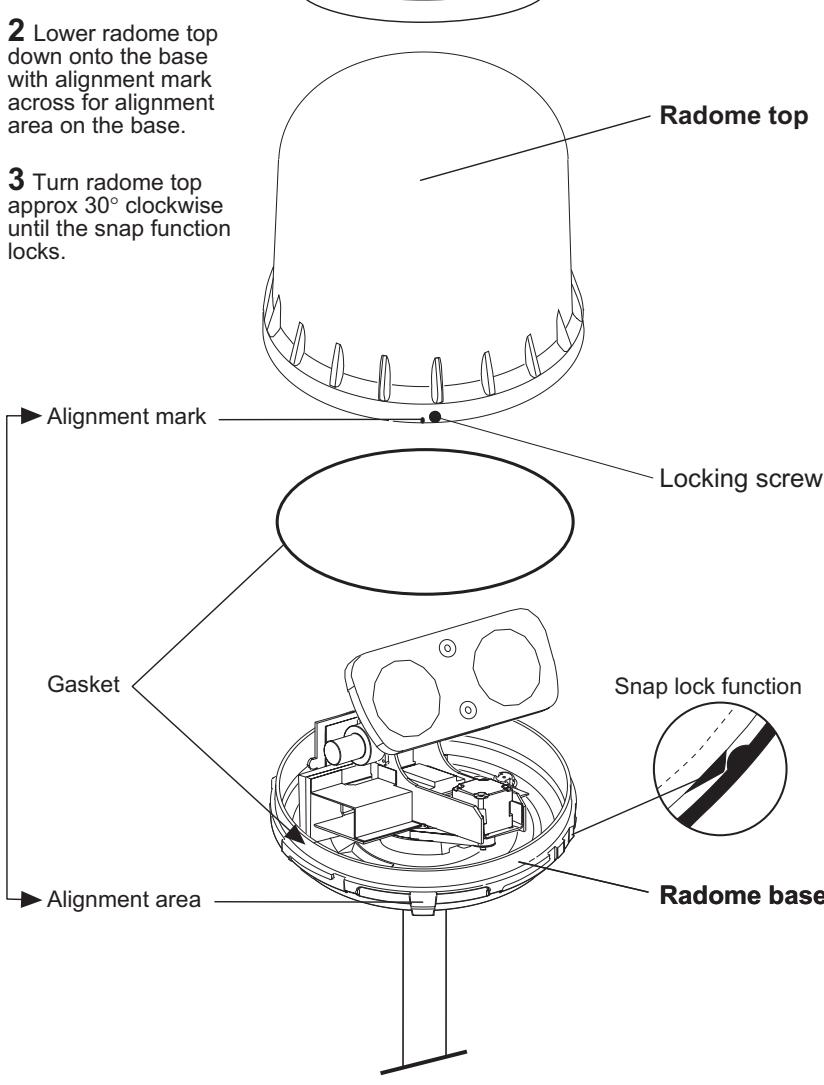
Radome top

Alignment mark

Locking screw

Gasket

Snap lock function

Alignment area

Radome base

Installation of Marine Antenna cont'd

Mounting the Antenna Unit with radome type 1 and 2

Mounting:

Thread coax cable through sockets and tube prior to final assembling and installing Antenna Unit

Radome type 1 and 2

Sealed inside with O-ring

Note!
Condensation drainage.
Do not cover this area!

Gasket

Hexagon screws/ washers (6)

Mounting flange

Lock screw (2)
Use 6 mm unbrako key

Mounting flange dimensions:

72

Dia 7

85.5

55

Tube (option)
Outer dia 42.4
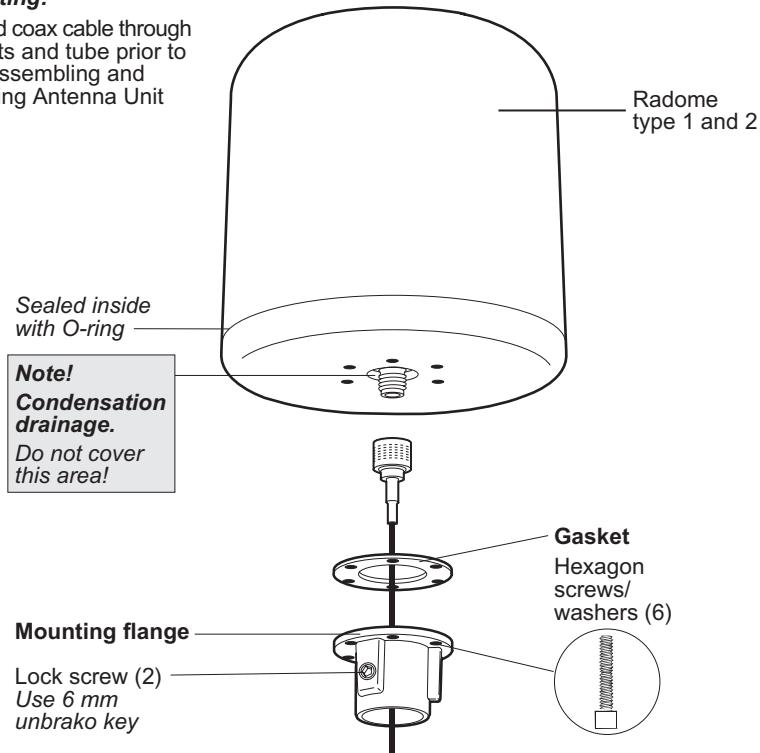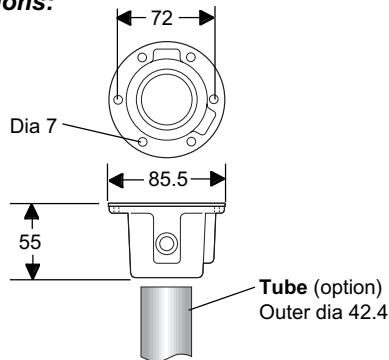
DIMENSIONS IN MILLIMETRES

Mounting the Power Supply
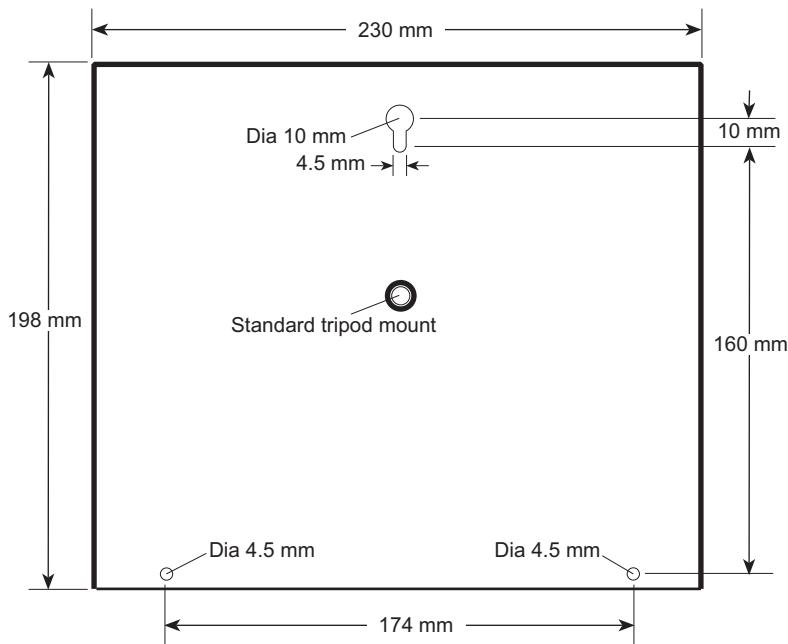
Underside view

Outline dimensions

Antenna Unit
QUFF 911980
(antenna only)

Weight: 3.8 kg

297

251
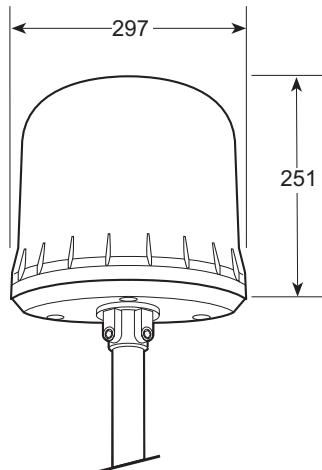
Telephone Unit (TPU)
QUFC 911936

Weight: 1.0 kg

44

190

235
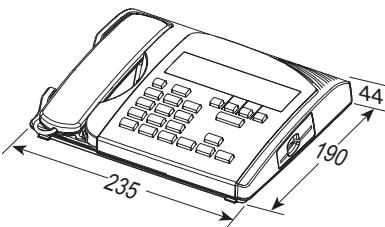
Power Supply (PS)
QUFC 911932

Weight: 1.6 kg

38

198

230
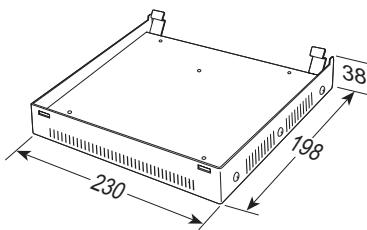
Optional 230 VAC power
supply w/AC and DC cables
connected.
QBMJ 101002

Weight: 0.65 kg

52

168

100
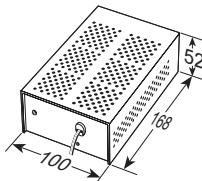
Antenna Unit

The Antenna Unit should be installed so that severe vibration and shock are avoided.

The equipment is supplied with a magnetic mounting bracket for installation on cars with magnetic-holding roof top.

Mounting option:
Load Carrier Base Assembly for installation on cars with non-magnetic roof material, or for installation on trains.

See illustration on next page.

Coax cable

A 5 metre coaxial cable type GO2232D (QRPM 911086-5000) is supplied as standard.

For greater lengths, see "Optional antenna cable".

Telephone Unit (TPU) and Power Supply (PS)

The PS is provided with holes for mounting on wall or dash board with the TPU snapped on top of PS by fastening clips. A tripod mount allows the unit to be mounted on the optional suction adapter.

The TPU may be installed separately by using 3 metre extension cables between PS and TPU:

• coaxial cable, QRPM 911087-3000
• DC cable, QRPM 911079-3000

Source of energy

The equipment operates from 10 to 32 Volts DC from any 12V or 24V battery.

Installation of Voyager Antenna

Connecting up

ODE
Outdoor Equipment
. . . .
IDE
Indoor Equipment

Antenna coax cable
Standard:
type GO2232D
Length 5 m.

WorldPhone
Telephone Unit
TPU

Power
Supply
PS

RF cable to/from
WorldPhone
QRPM 911081-0150
Length: 15 cm

Power cable type
QRPM 911080-2000
10-32V DC

Power cable to WorldPhone
QRPM 911079-0150
Length: 15 cm

NB! Polarity dependent:
The positive lead is tagged.
(The NEGATIVE pole is connected
to the CENTRE PIN of the 3-pin plug.)
Fuse: 15 A slow blow

Appendix B – Installation of *Voyager Antenna* cont'd
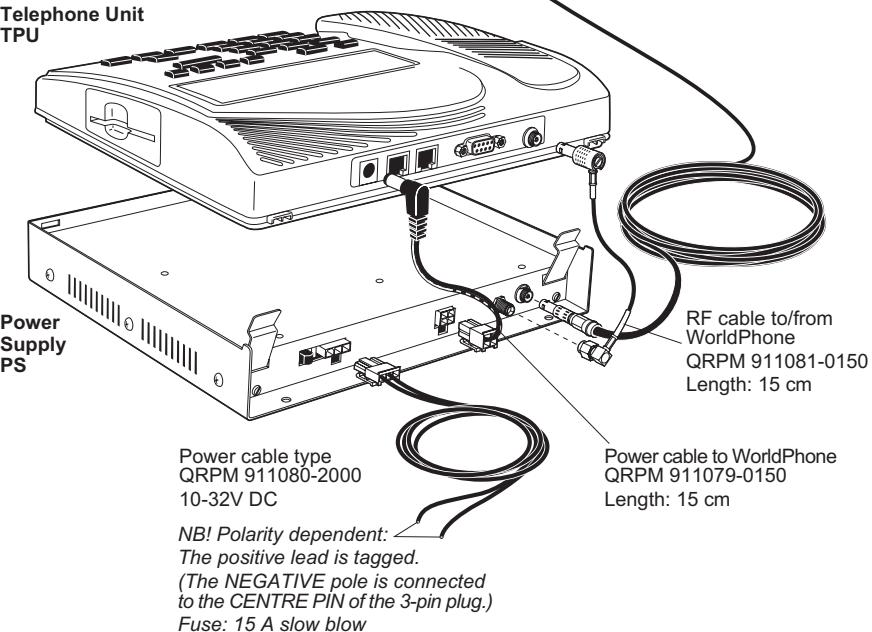
Mounting on magnetic-holding surface

The Antenna Unit may be attached to the roof top with a magnetic plate inside the antenna mounting bracket. On a flat, clean metal surface the antenna will stay in place at highway speeds up to 150 km/hour.

Note! A protection plate is supplied to keep the magnetic plate clean during shipment of the equipment. Remove the protection plate from the magnetic plate prior to attaching the Antenna Unit.

See "Assembling the Antenna Unit for magnetic mount".

The antenna may be loosened by carefully bending a screwdriver as indicated.

Mounting on load carrier

The Antenna Unit may also be attached to the roof using load carrier as indicated. See "Assembling the Antenna Unit for load carrier mount".

Antenna Unit mounted on load carrier

Antenna Unit attached with magnetic plate

Power cable with 10A fuse

Antenna coax cable

Telephone Unit & Power Supply
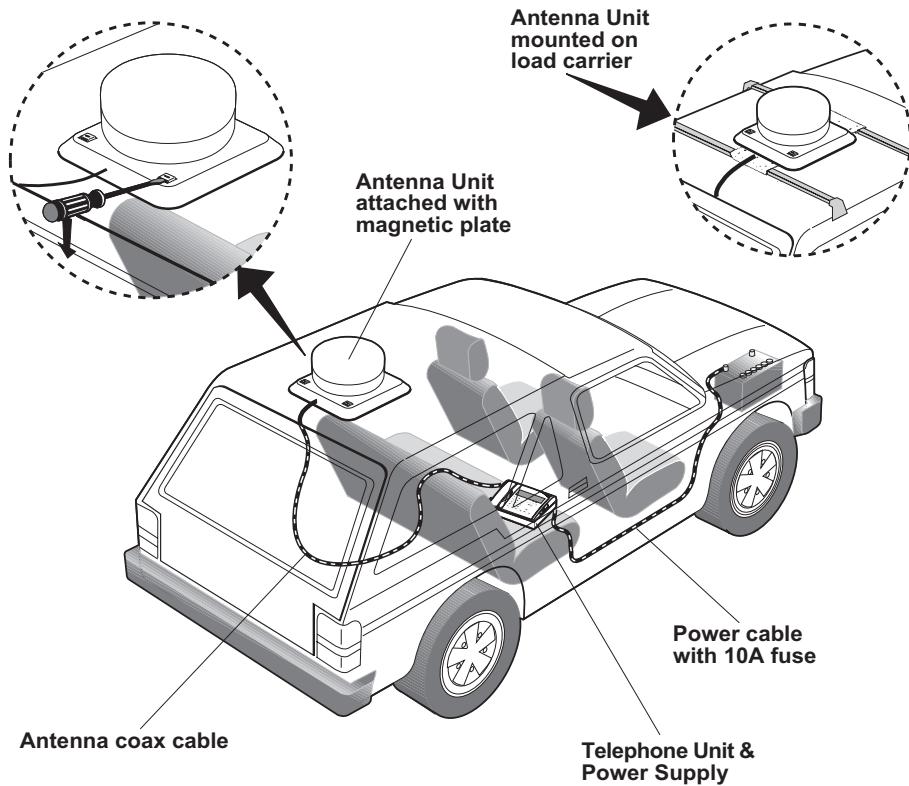
Installation of Voyager Antenna cont'd

Assembling the Antenna Unit for magnetic mount

4 While holding the base plate in place, lower the magnetic plate down and mount the four hexagon screws with washers.
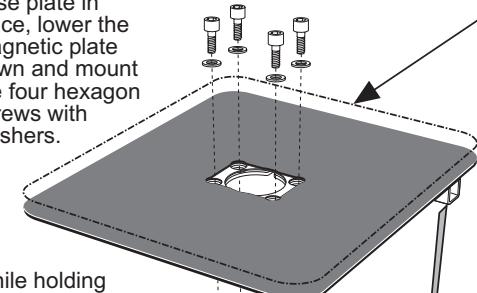
Note!
Remove the protection plate from the magnetic plate prior to attaching the Antenna Unit.
The protection plate is supplied to keep the magnetic plate clean during shipment of the equipment.

3 While holding the base plate in place, mount the antenna coax plug.

2 Lower the base plate down onto the antenna with the mounting holes positioned across for the screw holes.

1 Place the antenna upside down on a stable surface.

Assembling the Antenna Unit for load carrier mount

4 While holding the base plate in place, lower the bracket down and mount the four hexagon screws with washers.
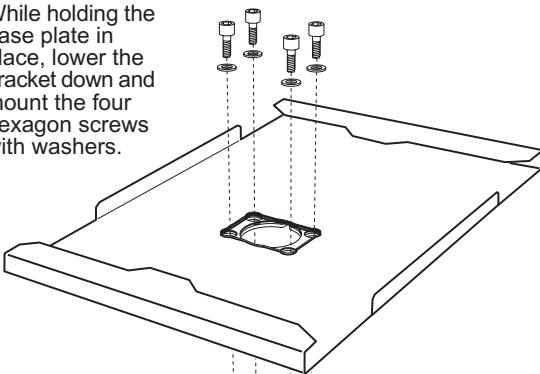
3 While holding the base plate in place, mount the antenna coax plug.
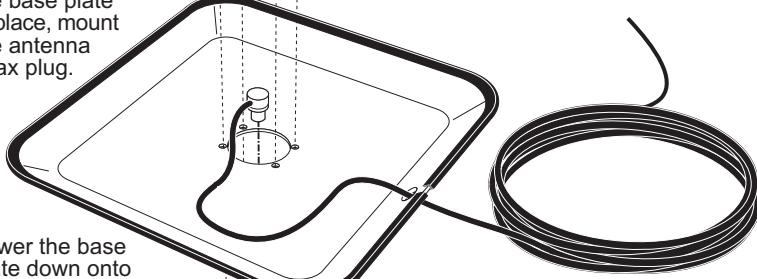
2 Lower the base plate down onto the antenna with the mounting holes positioned across for the screw holes.

1 Place the antenna upside down on a stable surface.

Installation of Voyager Antenna cont'd

Mounting the Power Supply

230 mm

Dia 10 mm

4.5 mm

10 mm

198 mm

Standard tripod mount

160 mm

Dia 4.5 mm

Dia 4.5 mm

174 mm

Underside view
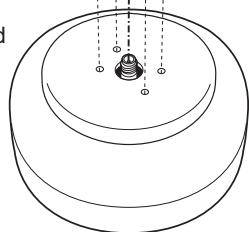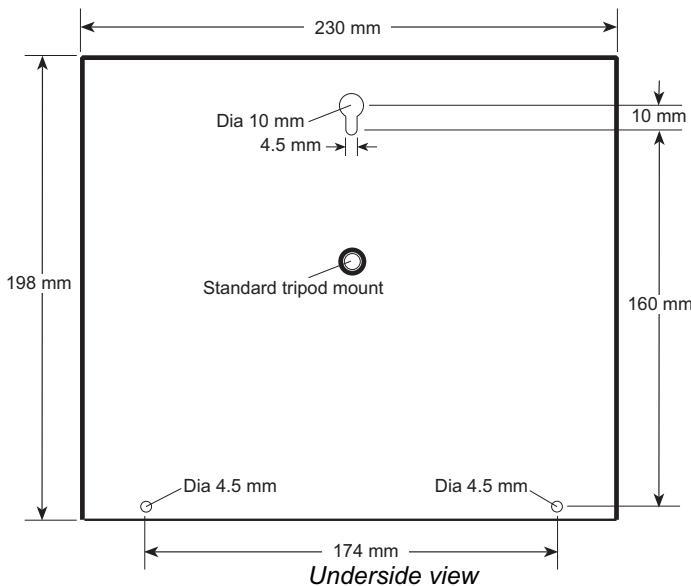
Outline dimensions

Power Supply
QUFC 911932

Weight: 1.6 kg
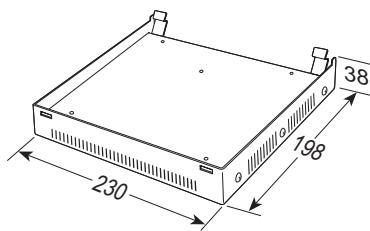
38

198

230

Outline dimensions

Telephone Unit
QUFC 911936

Weight: 1.0 kg
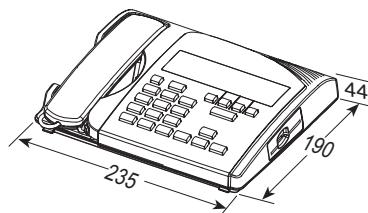
Antenna Unit
QUFF 911905

Weight: 3.0 kg
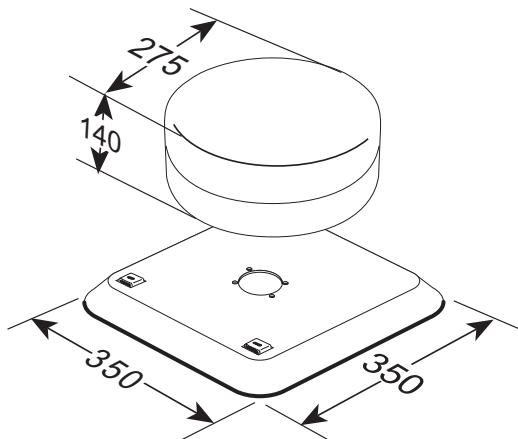
Load carrier mount (option)
QSXA 811990

**Installation of Voyager
Antenna cont'd**
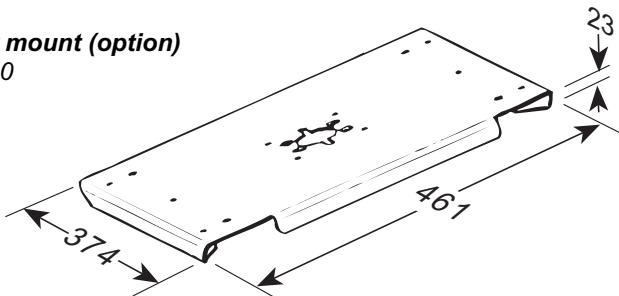
Appendix B – Installation of *Provident Antenna*

Satellite search

Before mounting the WorldPhone Provident antenna, look up the relative position of the satellite, *see coverage map in appendix H – System description.*

The antenna must be pointed at the satellite with free line of sight for optimum receiving and transmitting conditions. The beam is perpendicular to the antenna.

When during adjustment of the antenna a satellite signal is received, a short tone will sound. If it is an Inmarsat satellite, a continuous tone will sound with varying frequency. When closing in on a satellite, turning the antenna horizontally and adjusting its vertical angle, the tone should increase in frequency.

See setup procedure for WorldPhone Portable in chapter 1. Getting Started.

Coax cable

A 10 metre coaxial cable type RG-223 (QRPM 911091-10000) is supplied as standard.

For greater lengths, see "Optional antenna cable".
A bracket is available with N-connector receptacle for connection of extended antenna cable, *see "Optional bracket".*

Source of energy

The equipment operates from 10 to 32 Volts DC from any 12V or 24V battery, using the 2 m DC power cable, QRPM 911080-2000. The positive lead of the power cable is tagged.

An adapter is included for operation from 90-264 VAC, QBMA 901001 (1.8 m mains cable).

A 2 m car lighter cable can also be supplied, QRPM 911090.

The TPU is delivered with an internal rechargeable battery pack, *see "Internal battery" in chapter 1. Getting Started.*

Connecting up

ODE
Outdoor Equipment

IDE
Indoor Equipment

Antenna coax cable
Standard:
QRPM 911091
Length 10 m.

**WorldPhone
Telephone Unit
TPU**

15 V DC

90-264 VAC Adapter
QBMA 901001

Car lighter cable
QRPM 911062
(option)

Power cable type
QRPM 911080-2000
10-32V DC

*NB! Polarity dependent:
The positive lead is tagged.
(The NEGATIVE pole is connected
to the CENTRE PIN of the plug.)
Fuse: 15 A slow blow*

**Installation of Provident
Antenna cont'd**

Mounting the Antenna Unit

Adjustment screws
(90 degree range)

U-bolt

Mast bracket

Coax connector

RF transceiver

Max dia 120 mm

Optional bracket

Fastened using existing hexagon screws

Rear side of antenna

Coax connector

N-connector (female)

N-connector (male)

N-connectors

Optional antenna cable

"Pigtail" QRPM 911059.1000
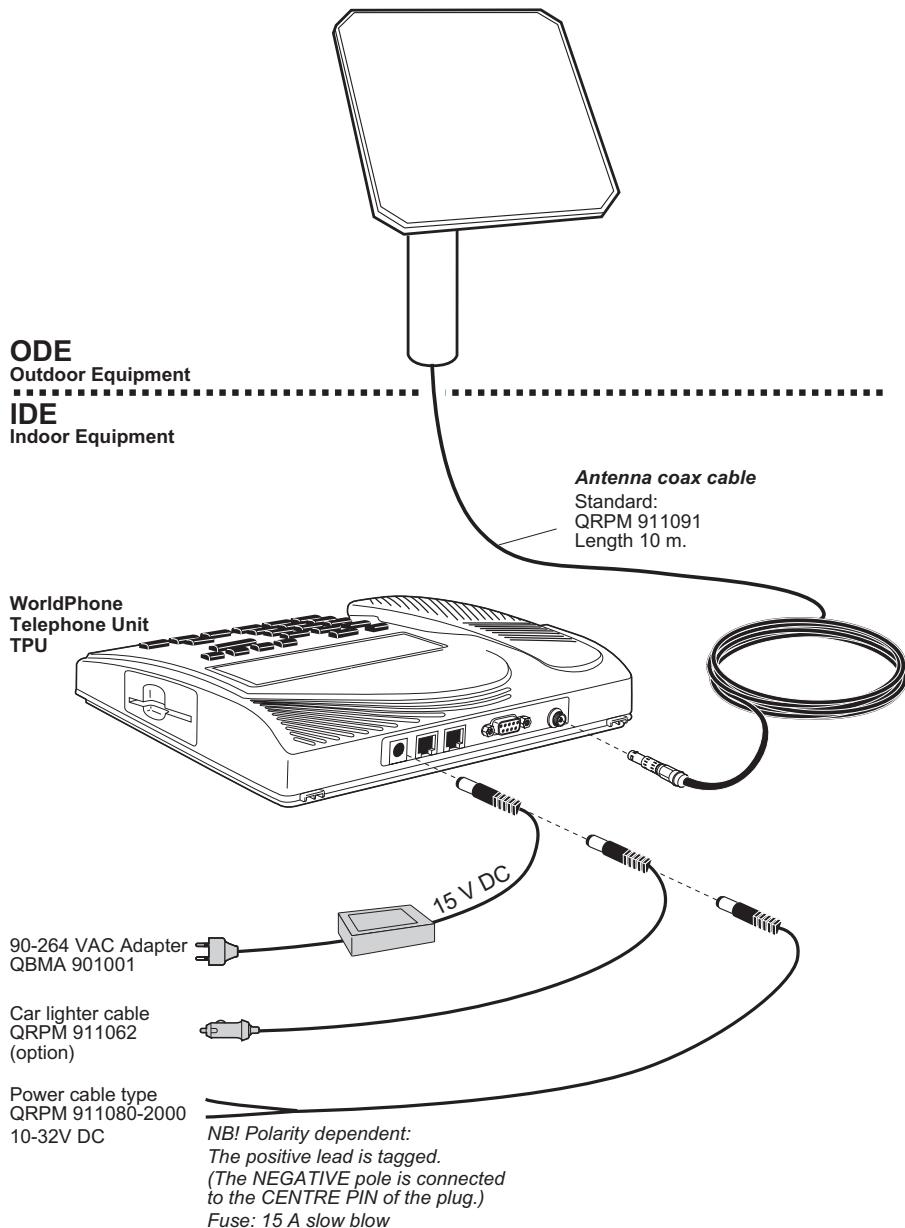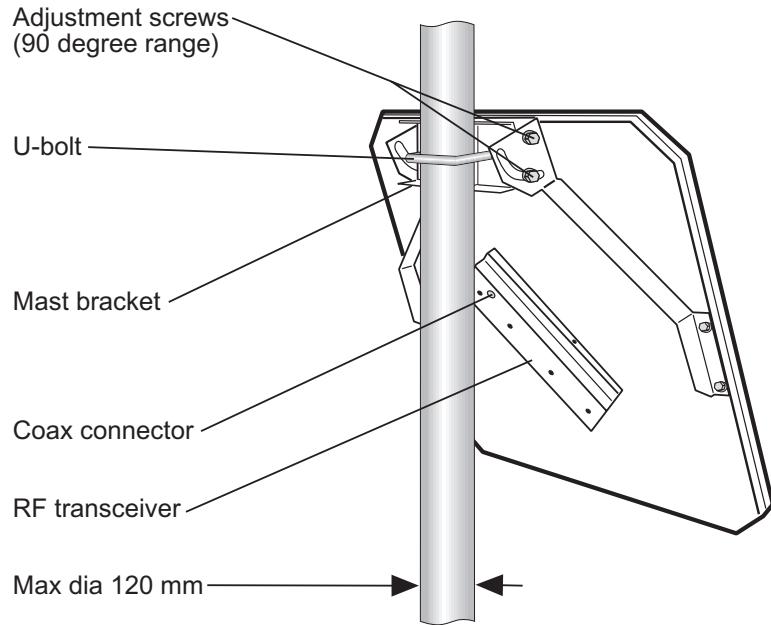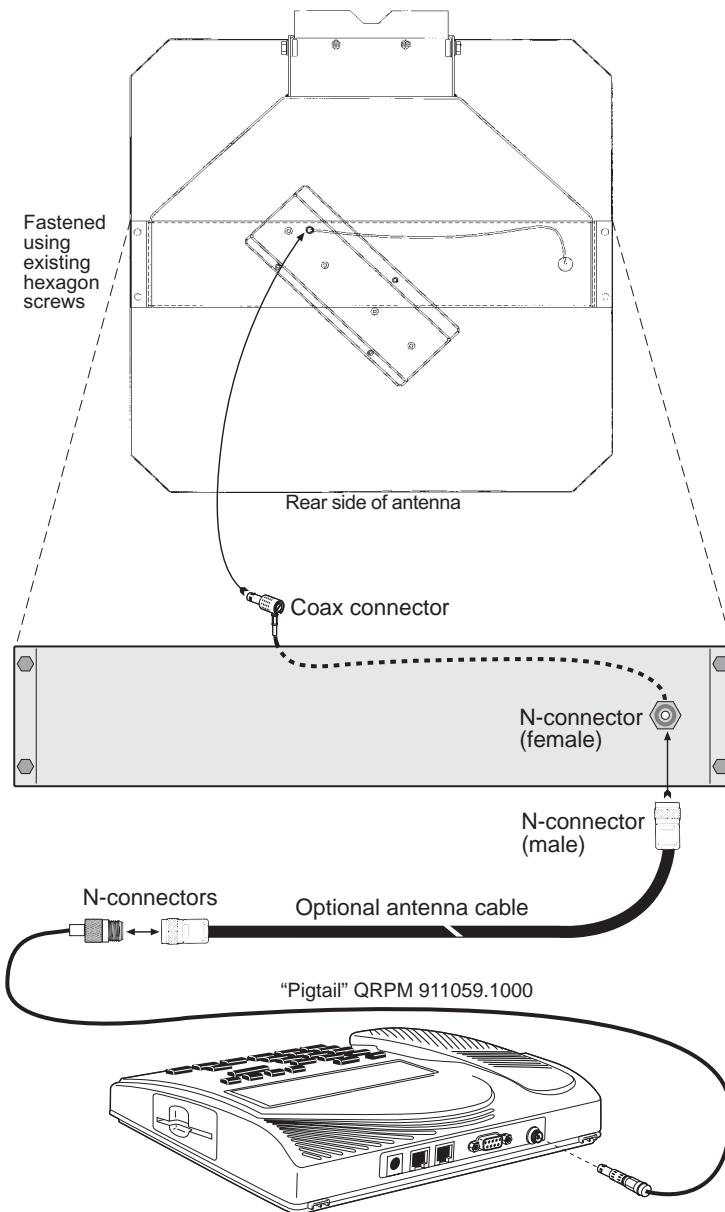
Installation of Provident Antenna cont'd

Outline dimensions

Telephone Unit
QUFC 911936

Weight: 1.0 kg

44

190

235
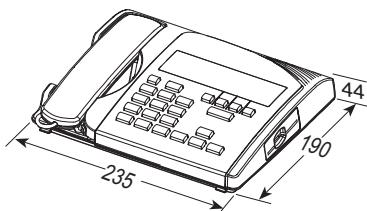
Antenna Unit
QUFC 911906

Weight: 3.0 kg
(antenna only)

521

521
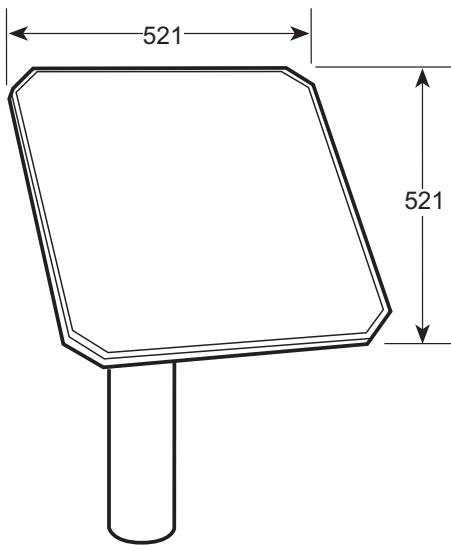
General

Double screen 50 Ω coaxial cable must be used for connection between the TPU and the various Antenna Units.

The coax cable should be secured by laying the cable in a tube and/or by fastening the cable to avoid damage.

A "pigtail" is normally required for connection to the TPU.

The maximum length of the coax cable is limited by the DC and RF loss through the cable:

Maximum DC loss: R loop 0.6 ohm

Maximum RF attenuation at 1525-1660 MHz: < 10 dB

The table below lists suitable double screened coax cables:

*Antenna cable	Reference	Diameter	max. length for 10 dB/0.6	Suitable coaxial connectors	
				at the TPU	at the antenna
RG214	MIL-C-17	10.8 mm	25 m	11N-50-7-5 + "pigtail"	11N-50-7-5
S 10172 B-10 (QTZC 502 012	—	12.9 mm	75 m	11N-50-10-4 + "pigtail"	11N-50-10-4
RF $1/2$" 50	—	16.0 mm	95 m	11N-50-12-115 + "pigtail"	11N-50-12-115
RF $7/8$" 50	—	27.5 mm	172 m	11N-50-23-101 + "pigtail"	11N-50-23-101

N/female   N/male   *Antenna cable   N/male

Pigtail
QRPM 911059-1000

at the TPU   **at the antenna**
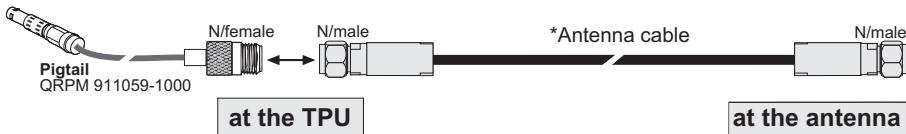
Ready-made cables

The following cable extensions are delivered with coax connectors mounted:

10 m cable	QRPM 911091-10000
28 m cable	QRPM 911057-28000
80 m cable	QRPM 911058-80000

Optional antenna cable

Telephone Unit, TPU

TELEFAX

TELEPHONE

		TEL
	NOT USED	1
TEL-1A	LINE (YELLOW)	2
TEL-1B	LINE (RED)	3
	NOT USED	4
		5
		6

PC

	DATA
CD (109)	1
RXD (104)	2
TXD (103)	3
DTR (108)	4
GND (102)	5
DSR (107)	6
RTS (105)	7
CTS (106)	8
RI (125)	9

Connecting up optional equipment
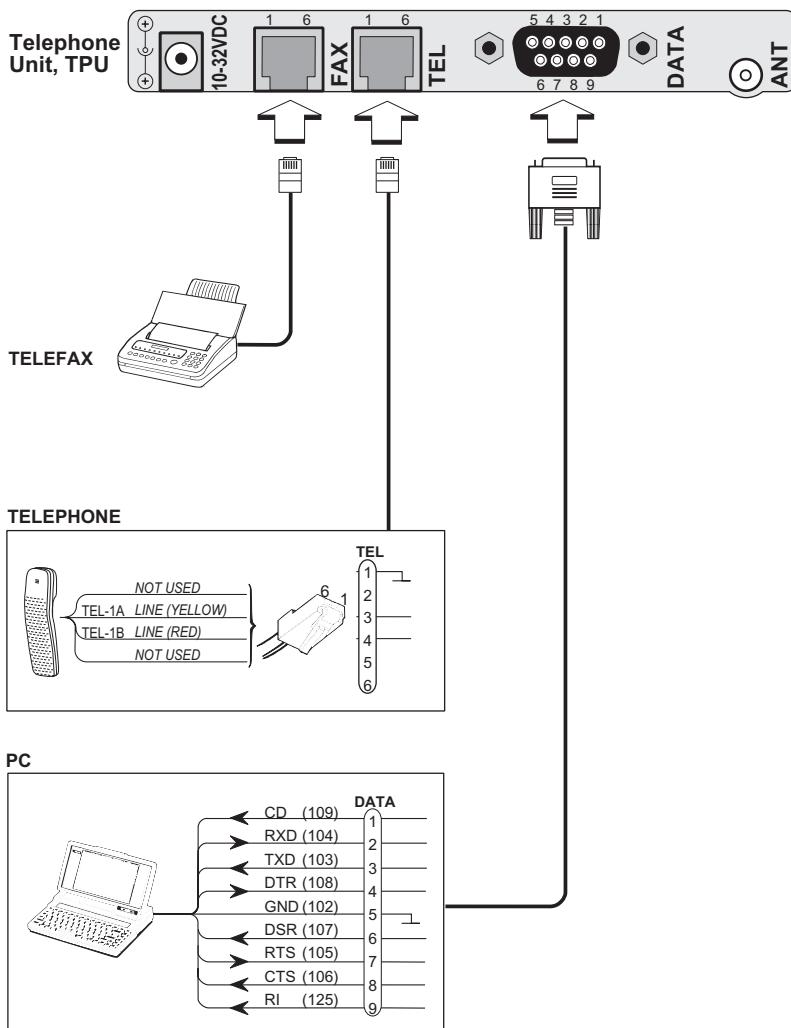
Handling

A new battery, or a battery that has not been used for a long time, will require 2 - 3 charge/discharge cycles to achieve its maximum performance with normal use of the WorldPhone.

To discharge the battery use the phone until it shuts down.

Avoid charging a fully charged or nearly charged battery.

Never leave the battery in hot sunlight. Extreme temperatures may cause permanent reduction of the battery capacity.

Charging

The charging starts automatically once the universal AC adapter or the car lighter cable is connected to the power source, and terminates automatically when the battery is fully charged.

*Note! When running the WorldPhone on the universal adapter alone (no battery installed), the battery symbol in the display is replaced by "**DC**".*

Calibration

To ensure correct monitoring of the battery state, it must be fully discharged before charging the battery pack for the first time.

Internal power: NiMh rechargeable battery pack
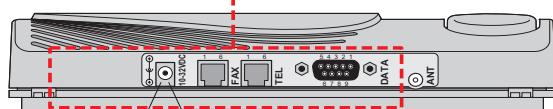
Polarity independent

Motor must be running to achieve full charge of the battery pack

External power/charging

90 - 264 V AC

15 V DC

Universal AC Adapter
QBMA 101001-2

Car lighter cable
QRPM 911062
(option)

Battery charging

Charger

The WorldPhone Charger allows separate charging of a single battery pack.

Operation:

1 The indicator lights green when connecting the charger to the power source without battery inserted.
No light indicates that power is not supplied to the charger: check cables.

2 When inserting a battery that is not fully charged, red light indicates that charging takes place.

3 Green light indicates that the battery is fully charged. A fully discharged battery is charged in approximately 3 hours.

Note!
The battery may be stored or transported in the charger without any risk of drainage apart from self-discharge.

WorldPhone battery pack
QSXK 911944-2

Indicator

WorldPhone Charger
QUFC 911943
(option)

Polarity
independent

Motor must be running to achieve
full charge of the battery pack

90 - 264 V AC

15 V DC

Universal AC Adapter
QBMA 101001-2

Car lighter cable
QRPM 911062
(option)
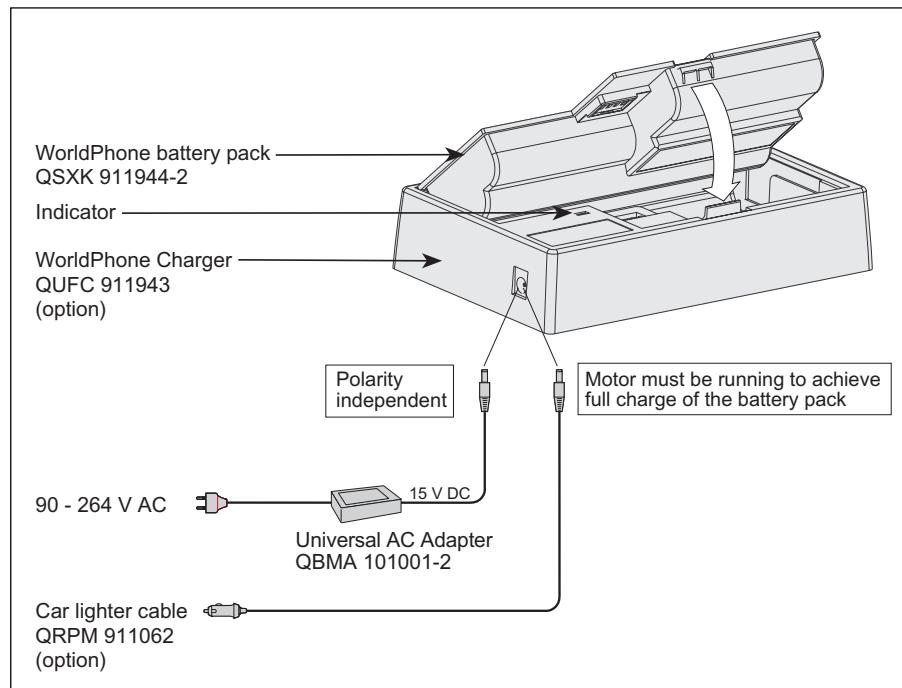
(WorldPhone Portable/Provident only)

Slide back lock to release battery pack

*Battery pack
QSXK 911944-2*

Battery replacement

General

The **AT** command set allows you to configure the WorldPhone ASD function directly from your PC keyboard. The AT characters are a prefix to the commands you issue to the WorldPhone's ASD service. *Most communication applications do not require knowledge of AT commands.*

Every time you type AT, you are essentially asking for the WorldPhone ASD's **AT**tention. For instance, if you want to answer an incoming data call, you would type ATA to answer: ⒜⒯⒜⏎ R

When a value associated with a command is not entered, it is assumed to be 0, f.ex.: ⒜⒯�&⒟ equals ⒜⒯&⒟⓪.

Hanging up – escape sequence

Once the the WorldPhone ASD is online to another system, the only command it recognises is an **escape code** that contains three typed pluses, (+) which forces the WorldPhone ASD back to **command mode**.

The following should be done, when issuing the escape command:

• Wait one second after sending the last item of data.

• Type ⊞⊞⊞ with less than one second between the characters.

• Wait one second, an "OK" response should appear.

Do not type the AT prefix or Carriage Return. The guard time of one second before and after the code prevents the WorldPhone ASD from misinterpreting the occurrence of +++ in the transmitted data stream.

If necessary, the character used in the escape code or the duration of the guard time can be changed by altering Register S2 or S12, *see S-register commands.*

• In response to ⊞⊞⊞, the WorldPhone ASD returns to command mode.

• To hang up, key ⒜⒯⒣⏎ R

• To return to online mode, key ⒜⒯⒪⏎ R

Appendix D – AT commands cont'd

Operating modes

The WorldPhone ASD function may operate in three modes:

- *Command mode*
  The WorldPhone ASD responds to AT commands. No remote communication occurs.

- *Online command mode*
  A data call is taking place and an escape sequence has been initiated, after which the WorldPhone ASD will respond to **AT** commands during the call.

- *Online data mode*
  Once the WorldPhone ASD is connected up, anything arriving from the PC is interpreted as data and sent to the remote end and vice versa.

Basic AT commands

*Note! AT commands may be entered in **either** upper or lower case (not mixed).*

A T A ↵R

> *instructs the WorldPhone ASD to connect the line and start the answer sequence of the incoming call. Used when not configured for auto answer.*

A T D 0 0 4 7 6 7 2 4 4 7 0 0 ↵R

> *instructs the WorldPhone ASD to dial the number **00 47 67 24 47 00** via the default Net service provider.*

A T D 4 * 0 0 4 7 6 7 2 4 4 7 0 0 ↵R

> *instructs the WorldPhone ASD to dial the number **00 47 67 24 47 00** via the selected Net service provider, e.g. Telenor (Norwegian Telecom, code no.4).*

A T D 2 3 1 1 ↵R *dials the telephone number stored under short number 11.*

A T E **[n]** ↵R

> *sets local echo of keyboard commands on/off:*
>
> A T E 0 ↵R *turns local echo **OFF**.*

Default   A T E 1 ↵R *turns local echo **ON**.*

A T H ↵R

> *hook control:*
>
> A T H ↵R *sets the WorldPhone ASD ON-hook when in Online Data Mode. Disconnects the line and terminates the call.*

A T O ↵R

> *returns to Online Data Mode when in Online Command Mode during a data call.*

Appendix D – AT commands cont'd

A T Q **[n]** ↵R

sets responses sent by the WorldPhone ASD:

Default   A T Q 0 ↵R : the WorldPhone ASD **returns** responses like OK or ERROR.

A T Q 1 ↵R : the WorldPhone ASD does not return responses.

A T S *sets and displays S register values. See "S-Register Commands".*

A T V **[n]** ↵R

sets the WorldPhone ASD response format to words or numbers:

A T V 0 ↵R selects **numeric** response.

Default   A T V 1 ↵R selects **verbal** response.

A T X **[n]** ↵R

selects CONNECT result code format
(dial tone detection – busy detection):

A T X 0 ↵R
basic message set: OK, CONNECT, RING, NO CAR-RIER, ERROR.

A T X 1 ↵R
basic message set extended with CONNECT xxxx-yyyy.

A T X 2 ↵R
basic message set extended with NO DIALTONE.

A T X 3 ↵R
basic message set extended with BUSY.

Default   A T X 4 ↵R
basic message set extended with all of the above.

⒜ ⒯ ⒵ ⏎R

> *resets the WorldPhone ASD configuration to last saved command. Also clears the call if used when in Online Command Mode.*

⒜ ⟋

> *repeats last command.*
> Re-executes the last AT command string issued to the WorldPhone ASD, including redialing a telephone number.

Appendix D – AT commands cont'd

Extended AT commands

A T & C **[n]** ↵R

> *determines the Data Carrier Detect (DCD) behaviour:*

A T & C 0 ↵R sets DCD always ON.

Default A T & C 1 ↵R sets DCD, only when connected.

A T & D **[n]** ↵R

> *selects the Data Terminal Ready (DTR) behaviour:*

A T & D 0 ↵R the WorldPhone ASD ignores DTR.

A T & D 1 ↵R the WorldPhone ASD enters Online Command Mode when DTR goes inactive.

Default A T & D 2 ↵R the WorldPhone ASD **clears call** when DTR goes inactive.

A T & F ↵R

> *resets the WorldPhone ASD to factory **default**. The factory default is not saved as with the AT&W command, so ATZ revokes to last saved values.*

A T & S **[n]** ↵R

> *selects the Data Set Ready (DSR) behaviour:*

Default A T & S 0 ↵R sets DSR permanently ON.

A T & S 1 ↵R sets DSR ON when satellite link is established.

A T & V ↵R

> *displays stored configuration profile.*

A T & W ↵R

> *saves active configuration profile.*
> *(May be recalled using A T Z ↵R).*

Extended AT+I, +G and +W commands

The extended AT+I, AT+G and AT+W commands are non-standard features some of which are designed specially for the Inmarsat Mini-M system.

A T + G C A P ↵R

displays capabilities supported by WorldPhone terminals.

A T + G M I ↵R

displays manufacturer identification.

A T + G M M ↵R

displays equipment identification.

A T + G M R ↵R

displays software revision.

A T + I C F = [**n**<format>] [**,m**<parity>] ↵R

specifies the local serial port start-stop (asynchronous) character framing between the PC and the WorldPhone.

A T + I C F ? ↵R

displays current settings.

A T + I C F = ? ↵R

displays available settings.

Format reference number **n** :

1 = 8 data bits, 2 stop bits

Default **3** = 8 data bits, 1 stop bit

4 = 7 data bits, 2 stop bits

5 = 7 data bits, 1 parity bit, 1 stop bit

Appendix D – AT commands cont'd

Parity reference number **m** :

0 = odd

1 = even

2 = mark

Default **3** = space

Example:

Ⓐ Ⓣ ⊞ Ⓘ Ⓒ Ⓕ ⊟ ③ , ③ ⏎ R

specifies a data format of 8 data bits,1 stop bit and space parity.

Ⓐ Ⓣ ⊞ Ⓘ Ⓕ Ⓒ ⊟ [**n**<WP-to-PC>] [,**m**<PC-to-WP>] ; ⏎ R

specifies the local flow control between the PC and the WorldPhone.

Ⓐ Ⓣ ⊞ Ⓘ Ⓕ Ⓒ ? ⏎ R

displays current settings.

Ⓐ Ⓣ ⊞ Ⓘ Ⓕ Ⓒ ⊟ ? ⏎ R

displays available settings.

WorldPhone - to - PC, reference number **n** :

0 = no flow control

1 = XON/XOFF (software flow control stripped of control characters.)

Default **2** = RTS (hardware flow control)

3 = XON/XOFF (software flow control with pass-through of control characters.)

PC - to - WorldPhone, reference number **m** :

0 = no flow control

1 = XON/XOFF (software flow control)

Default **2** = CTS (hardware flow control)

Ⓐ Ⓣ ⊞ Ⓘ Ⓟ Ⓡ ⊟ [**r**(PC-to-WP rate)] ⏎ R

specifies the data rate at which PC - WorldPhone interface accepts commands.

⌨ A T + I P R ? ↵ R
displays current settings.

⌨ A T + I P R = ? ↵ R
displays available settings.

Selectable data rates, **r** :
  1200 bps
  2400 bps
  4800 bps
  9600 bps
 19200 bps
 38400 bps

Example:

⌨ A T + I P R = 9 6 0 0 ↵ R
specifies a data rate of 9600 bps between the PC and the WorldPhone telephone unit.

⌨ A T + W ↵ R
indicates which PCCA standard the WorldPhone ASD complies with.

⌨ A T + W K S I Z E = **[n]** ↵ R
sets the maximum ARQ window size for subsequent data calls using ARQ mode. The ARQ window determines the size of the buffer that keeps in memory data not yet acknowledged by the other end.

⌨ A T + W K S I Z E ? ↵ R
displays current settings.

⌨ A T + W K S I Z E = ? ↵ R
displays available settings.
Valid value of **n** = 1 - 63

Default **WorldPhone :** **n** = 15

Appendix D – AT commands cont'd

⒜⒯ ⊞⒲⒤⒩⒨⒜⒭⒮⒜⒯ ⏎R

lists Inmarsat specific functions supported by the World-Phone ASD.

⒜⒯ ⊞⒲⒧⒠⒮ ⌷[n] ⏎R

selects the Net service provider for the next outgoing call.

The parameter **nnn** specifies the Net service provider Access Code. Three digits must be keyed in. If omitted, the default Net service provider set from the WorldPhone is selected.

Range = 0 - 255

nnn = 000, default Net service provider.

⒜⒯ ⊞⒲⒩⒠⒭⒜⒣⒮⒣⒜⒦⒠ ⌷[n] ⏎R

selects handshake setup.

n = 1 fills the WorldPhone buffer before handshaking with the Net service provider.

Default **n** = 0 routes handshake transitions from the PC directly to the Net service provider. Minimizes transmission delays when handshake is used seldom.

⒜⒯ ⊞⒲⒭⒜⒯⒠ ⌷[<sat_rate>] [,<ter_rate>] ⏎R

sets the wanted satellite data rate, and the terrestrial data rate used for outgoing data calls.

⒜⒯ ⊞⒲⒭⒜⒯⒠ ⁇ ⏎R

displays selected rates.

⒜⒯ ⊞⒲⒭⒜⒯⒠ ⌷⁇ ⏎R

displays available rates.

Sat_rate, i.e. requested data rate to use over satellite channel, for WorldPhone permanently set to:

2400 bps

Ter_rate, i.e. data rate to use on terrestrial modem:

 1200 bps

 2400 bps

 4800 bps

Default 9600 bps

 14400 bps

Example:

`A``T` `+``W``R``A``T``E` `=``2``4``0``0` `,``2``4``0``0` `⏎ R`

sets both the satellite rate and the terrestrial modem rate to 2400 bps.

`A``T` `+``W``R``T``L` `=`**[<low>] [,<high>]** `⏎ R` *sets the lower and upper threshold level in bytes of the buffer used in the Net service provider-to-WorldPhone direction (**WorldPhone receive buffer**).*

`A``T` `+``W``R``T``L` `?` `⏎ R`

displays selected threshold levels.

`A``T` `W``R``T``L` `=``?` `⏎ R`

displays available threshold levels.

The **low** parameter specifies the lower threshold at which point the WorldPhone ASD should issue an RR (Receiver Ready) packet signalling that it is ready to receive data from Net service provider:

Valid value: 0-511

Default value: 120

The **high** parameter specifies the upper threshold at which point the WorldPhone ASD should issue an RNR (Receiver Not Ready) packet signalling that it is not ready to receive any more data from Net service provider:

Valid value: 1-512

Default value: 240

Note! The high value must be larger than the low value. When the high value is omitted, it becomes low value + 120.

Appendix D – AT commands cont'd

`A` `T` `+` `W` `S` `4` `5` `=` **[n]** `⏎ R`

> *sets the requested satellite and terrestrial error correction scheme for data calls.*

`A` `T` `+` `W` `S` `4` `5` `?` `⏎ R`

displays current setting.

`A` `T` `W` `S` `4` `5` `=` `?` `⏎ R`

displays available setting.

Parameter reference number

	n :	*Sat. err.corr.*	*Terr. err.corr.*	*End-to-end*
	0	non-ARQ	non-V.42	NARQ
Default	**1**	ARQ	V.42	ARQ
	200	non-ARQ	V.42	NARQ
	201	ARQ	non-V.42	NARQ

`A` `T` `+` `W` `S` `4` `6` `?` `⏎ R`

> *shows that the Inmarsat Mini-M ASD standard is to be used for data communication. This is fixed and may not be changed.*

`A` `T` `+` `W` `T` `N` `I` `D` `=` **[<nnn>]** `⏎ R` *sets the terrestrial network for the next outgoing data call.*

`A` `T` `+` `W` `T` `N` `I` `D` `?` `⏎ R`

displays selected TNID.

`A` `T` `+` `W` `T` `N` `I` `D` `=` `?` `⏎ R`

displays available TNIDs.

The parameter **nnn** specifies the terrestrial network ID. If omitted, it is set to **000**.

Range = 0 - 255

nnn = 000, terrestrial network unspecified.

$\boxed{A}\boxed{T}$ $\boxed{+}\boxed{W}\boxed{T}\boxed{T}\boxed{L}$ $\boxed{=}$[**<low>**] [**,<high>**] $\boxed{\leftarrow R}$ *sets the lower and upper threshold level in bytes of the buffer used in the WORLDPHONE-to-Net service provider direction (**WorldPhone transmit buffer**).*

$\boxed{A}\boxed{T}$ $\boxed{+}\boxed{W}\boxed{T}\boxed{T}\boxed{L}$ $\boxed{?}$ $\boxed{\leftarrow R}$
displays selected threshold levels.

$\boxed{A}\boxed{T}$ $\boxed{W}\boxed{T}\boxed{T}\boxed{L}$ $\boxed{=}\boxed{?}$ $\boxed{\leftarrow R}$
displays available threshold levels.

The **low** parameter specifies the lower threshold at which point the WorldPhone ASD should issue an XON, or raise the CTS line signalling that it is ready to receive data from the PC:

Valid value: 0-511

Default value: 120

The **high** parameter specifies the upper threshold at which point the WorldPhone ASD should issue an an XOFF, or lower the CTS line signalling that it is not ready to receive data from the PC:

Valid value: 1-512

Default value: 240

Note! The high value must be larger than the low value. When the high value is omitted, it becomes low value + 120.

$\boxed{A}\boxed{T}$ $\boxed{+}\boxed{W}\boxed{X}\boxed{R}$ $\boxed{=}$[**n**] $\boxed{\leftarrow R}$
determines the format of a CONNECT response from the WorldPhone ASD.

$\boxed{A}\boxed{T}$ $\boxed{+}\boxed{W}\boxed{X}\boxed{R}$ $\boxed{?}$ $\boxed{\leftarrow R}$
displays selected format.

$\boxed{A}\boxed{T}$ $\boxed{+}\boxed{W}\boxed{X}\boxed{R}$ $\boxed{=}\boxed{?}$ $\boxed{\leftarrow R}$
displays available formats.

Format reference number **n** :

0 = CONNECT <*see below* * >

Appendix D – AT commands cont'd

> **1** = +WXSR:<satellite rate>,<ARQ I NARQ>
>   +WXTR:<terrestrial rate>,<ARQ I NARQ>
>   +WXKR:<ARQ window size>
>   CONNECT <PC-WP rate>

> *Default*   **2** = CONNECT <*see below** >,<ARQ I NARQ>

> **3** = CONNECT <ARQ I NARQ>

> * *The lowest value of PC-WP rate, satellite rate and terrestrial rate.*

S-Register commands

S-registers are special memory locations in the WorldPhone for storing specific configuration and operating parameters.

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{0}$ $\boxed{=}$**[n]** $\boxed{\lrcorner R}$

specifies automatic answer at the nth ring.
0=OFF, 1-255=ON.

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{0}$ $\boxed{=}$**<n>** $\boxed{\lrcorner R}$

sets value of register.

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{0}$ $\boxed{?}$ $\boxed{\lrcorner R}$

displays current value of register.

Default $\boxed{A}\boxed{T}$ $\boxed{S}\boxed{0}$ $\boxed{=}\boxed{0}$ $\boxed{\lrcorner R}$ turns automatic answer **OFF**.

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{0}$ $\boxed{=}\boxed{1}$ $\boxed{\lrcorner R}$ answers after 1 ring.

*the WorldPhone ASD will terminate incoming calls after **95 secs**.*

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{2}$ $\boxed{=}$**[n]** $\boxed{\lrcorner R}$

stores the ASCII decimal code for the escape character. Authorized codes within: 0 to 255.
n≥128 disables the escape sequence.

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{2}$ $\boxed{=}$**<n>** $\boxed{\lrcorner R}$

sets value of register.

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{2}$ $\boxed{?}$ $\boxed{\lrcorner R}$

displays current value of register.

Default $\boxed{A}\boxed{T}$ $\boxed{S}\boxed{2}$ $\boxed{=}\boxed{4}\boxed{3}$ $\boxed{\lrcorner R}$ sets the ESCAPE code to **43** ($\boxed{+}$-key).

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{3}$ $\boxed{=}$ **[n]** $\boxed{\lrcorner R}$

stores the ASCII decimal code for the carriage return character. Authorized codes within: 0 to 127.

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{3}$ $\boxed{=}$**<n>** $\boxed{\lrcorner R}$

sets value of register.

$\boxed{A}\boxed{T}$ $\boxed{S}\boxed{3}$ $\boxed{?}$ $\boxed{\lrcorner R}$

displays current value of register.

AT commands cont'd

Appendix D – AT commands cont'd
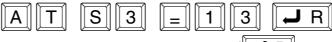
Default   A T S 3 = 1 3 ↵R sets the CARRIAGE
RETURN code to **13** (↵R -key).

A T S 4 = **[n]** ↵R

> *stores the ASCII decimal code for the line feed character.*
> *Authorized codes: 0 to 127.*

> A T S 4 = **<n>** ↵R

> *sets value of register.*

> A T S 4 ? ↵R

> *displays current value of register.*
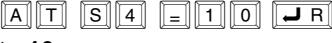
Default   A T S 4 = 1 0 ↵R sets the LINE FEED code
to **10**.

A T S 5 = **[n]** ↵R

> *stores the ASCII decimal code for the editing character.*
> *Authorized codes: 0 to 127.*

> A T S 5 = **<n>** ↵R

> *sets value of register.*

> A T S 5 ? ↵R

> *displays current value of register.*
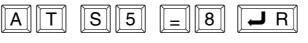
Default   A T S 5 = 8 ↵R sets the BACK SPACE code
to **8**.

A T S 2 5 = **[n]** ↵R

> *sets delay before examining DTR (108/2) after dialing and*
> *when online with a WorldPhone-to-Net call.*
> *Range: 0-255 hundredths of a second.*
> A T S 2 5 = **<n>** ↵R
> *sets delay value.*
> A T S 2 5 ? ; ↵R
> *displays current delay value.*

Default   A T S 2 5 = 5 ↵R sets delay to **5** (corre-
sponding to 50 milliseconds).

Pin assignments

Pin number	Mnemonic	Circuit	DIN	CCITT circuit	Signal source	Description
1	CD			109	DCE	Carrier detect
2	RXD	BB	D1	104	DTE	Received Data
3	TXD	BA	D2	103	DCE	Transmitted Data
4	DTR			108	DTE	Data terminal ready
5	GND			102		Signal ground
6	DSR			107	DCE	Data set ready
7	RTS	CA	S2	105	DTE	Request To Send
8	CTS	CB	M2	106	DCE	Clear To Send
9	RI			125	DCE	Ring indicator

Signal source DTE means the signal goes from the PC to the WorldPhone.
Signal source DCE means the signal goes from the WorldPhone to the PC.

DCE   DTE
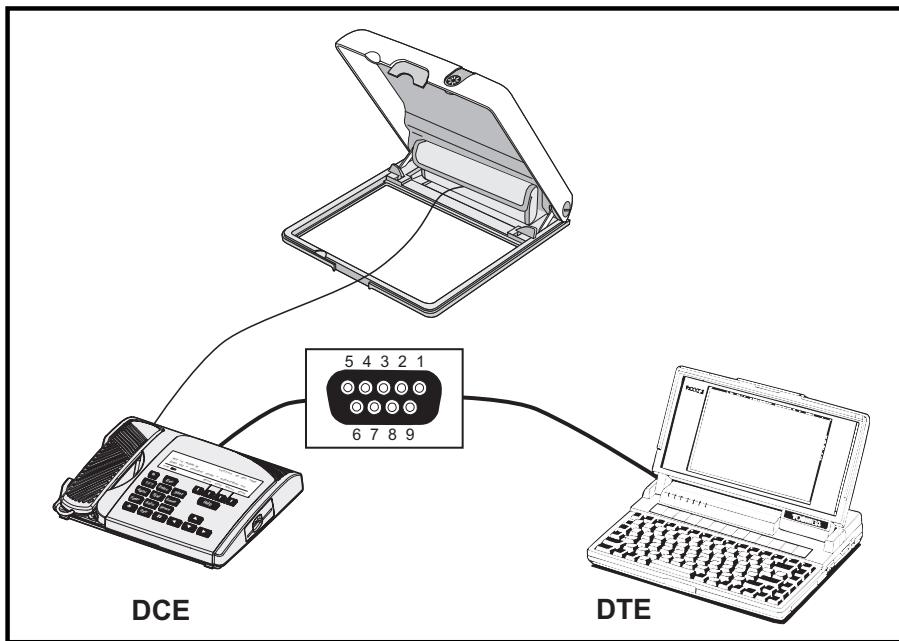
DTE interface

Signal descriptions

102 Signal Ground
>   Digital ground, return line.

103 Send Data
>   Data transmitted from DTE (PC) to DCE (WorldPhone).

104 Receive data
>   Data Received from DCE (WorldPhone) to DTE (PC).

105 Request To Send
>   OFF requests DCE (WorldPhone) to suspend transmission to DTE (PC).
>   ON requests DCE (WorldPhone) to resume transmission to DTE (PC).

106 Clear to send
>   OFF indicates that DCE (WorldPhone) cannot accept data from DTE (PC).
>   ON indicates that DCE (WorldPhone) is prepared to accept data from DTE (PC).

107 Data Set Ready
>   Signal from WorldPhone that when ON indicates that a data call setup is in progress.

108 Data Terminal Ready
>   Signal from PC. This signal is used in the Hotline mode and indicate when going from OFF to ON that the PC wants to make a data call. The PC clears the call by setting the signal from ON to OFF.

109 Receive Signal Indicator
>   Signal from WorldPhone that when ON indicates that connection is established and received data will be delivered on circuit 104, Received Data.

125 Ring Indicator
>   Signal from WorldPhone. This signal is used in the Auto answer OFF mode and when ON indicates that an incoming call is in progress. The signal will go OFF when the call is answered by the PC by turning circuit 108 Data Terminal Ready ON.

General

The WorldPhone can be programmed to allow operation of encrypted speech through the TEL port and the FAX port when this is configured for voice service. *Settings can only be made in Owner level.*

The STU IIB/III is *enabled as default* on ports configured for voice service.

STU enabling/disabling

Menu
☞ | I |

1 Press the **Menu** function key and scroll down to **Advanced functions**: ☞ | ▼ |

```
▲                Function menu
            Precharge
009▶Advanced  functions                    ▶
```

470 ▪▭   SIM   Lock Mail Selct Quit

☞ | ▶ |

☞ | I |

2 Press **Selct** or **right arrow** and scroll down to **Configuration**: ☞ | ▼ |

```
▲           9 – Advanced  functions menu
            Satellite  setup
007▶Configuration                          ▶
            Information  available
            Install
```

470 ▪▭   SIM   Lock Mail Selct Quit

☞ | ▶ |

3 **Selct** or **right arrow** opens the **Configuration menu**:

☞ | I |

```
            97 – Configuration  menu

001▶Port  configuration                    ▶
            Net  service  providers
            Power  conservation
            Set  diagnostics
```

470 ▪▭   SIM   Lock Mail Selct Quit

☞ | ▶ |

4 Pressing **Selct** or **right arrow** again displays which ports are enabled/disabled for use with secure voice: ☞ | ▼ |

```
            Service     Secure  voice
Handset:  Voice
▶TEL:       Voice      Enabled
▶FAX:       Fax
▶Broadcast: On
```

470 ▪▭   SIM   Broad Edit   Save

5 Press **Edit** or **right arrow** for enabling/ disabling secure voice.

Broadcast: On/Off ☞ | I | | I | ☞ | I |

Scroll up/down and press **Selct** at wanted mode: ☞ | ▲ | | ▼ |

```
            Servi    Service / Secure  voice
Handset:  Voic
▶TEL:       Voic   ▶Voice / Enabled
FAX:        Fax      Voice / Disabled
Broadcast: Off
```

470 ▪▭   SIM   Selct

☞ | I |

6 Repeat steps 4 and 5 to select mode for fax port: ☞ | ▲ | | ▼ |

```
            Service / Secure  voice
          ▶Fax
            Voice / Enabled
            Voice / Disabled
```
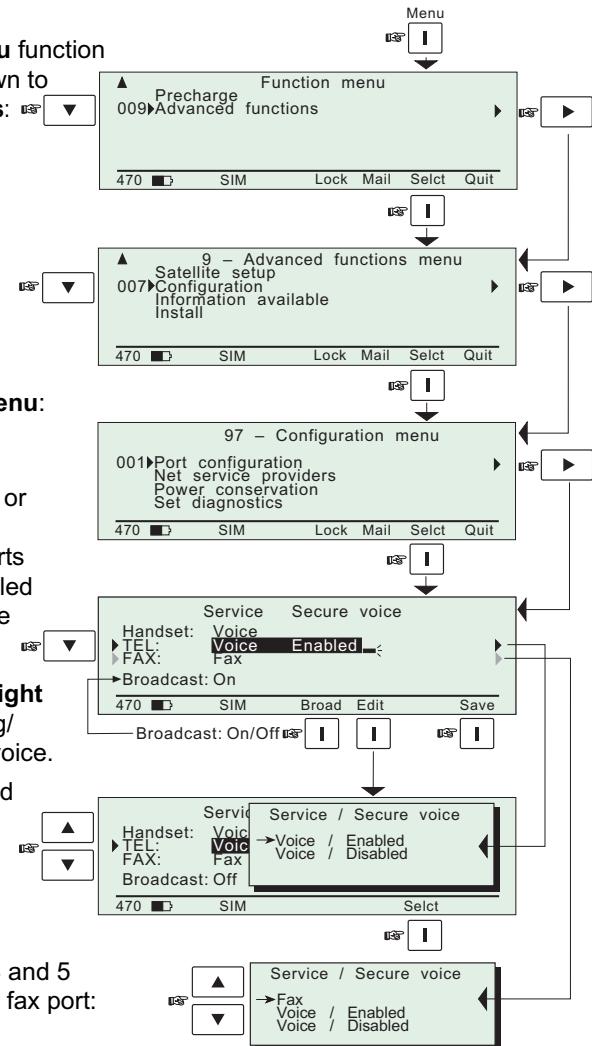
Secure voice

Appendix E – Aero functions (option)

Magnetometer calibration

1 Press the **Menu** function key and scroll down to **Advanced functions**: ☞ ▼

Menu ☞ [I]

```
▲                    Function  menu
     Precharge
009▶Advanced  functions                          ▶

470  ▬▷       SIM          Lock  Mail  Selct  Quit
```
☞ ▶

2 **Selct** or **right arrow** opens the **Advanced functions menu**:

☞ [I]

```
            9 – Advanced  functions  menu
     Access  control
005▶Aero  functions                               ▶
     Satellite  setup
     Configuration
     Information  available
470  ▬▷       SIM          Lock  Mail  Selct  Quit
```
☞ ▶
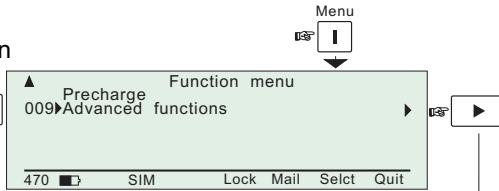
3 Scroll down to ☞ ▼ **Aero functions** and press **Selct** or **right arrow** to open the **Aero functions** window:

☞ [I]

▲
☞
▼

```
            95 – Aero  functions
001▶ Magnetometer  calibration                    ▶
002▶ Configure  landing  speed                    ▶
003▶ Satellite  locations                         ▶

470  ▬▷       SIM          Lock  Mail  Selct  Quit
```

4 **Selct** or **right arrow** opens the **Magnetometer calibration** window:

Start initiates calibration.

Abort stops the procedure.

☞ [I]
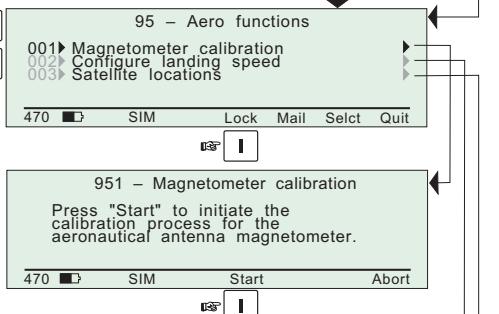
```
            951 – Magnetometer  calibration
     Press  "Start"  to  initiate  the
     calibration  process  for  the
     aeronautical  antenna  magnetometer.

470  ▬▷       SIM             Start           Abort
```
☞ [I]

Configure landing speed

5 Scroll down in the menu and press **Selct** or **right arrow** to open the **Configure landing speed** window:
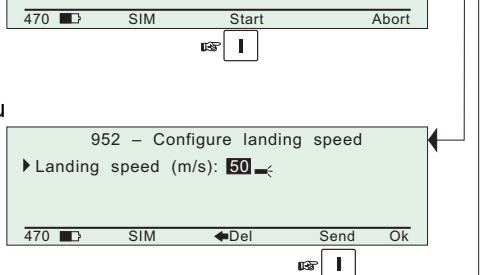
Key in anticipated speed.

```
            952 – Configure  landing  speed
▶ Landing  speed  (m/s):  50 ◿

470  ▬▷       SIM      ◀Del        Send        Ok
```
☞ [I]

Satellite locations

6 Scroll down in the menu and press **Selct** or **right arrow** to open the **Satellite locations** window: ☞ ▼

```
            953 – Satellite  locations
                      AOR-W
▶Longitude:     54
 Location:      WEST
470  ▬▷       SIM      Prev  Next  Save       Ok
```
☞ [I] [I]

Prev/Next lists the position of available satellite regions.

(For possible new satellites, key in position and scroll down to select location)

Aero functions

Latin languages

Key strokes: **1 2 3 4 5 6 7 8 9 10 11 12**

Lower case ☞ `1!/?` **! / ? ¡ ¿ 1**

UPPER CASE **! / ? ¡ ¿ 1**

`2abc` **a b c** à á â ã ä å æ ç **2**

A B C À Á Â Ã Ä Å Æ Ç 2

`3def` **d e f** ∂ è é ê ë **3**

D E F Đ È É Ê Ë 3

`4ghi` **g h i** ì í î ï **4**

G H I Ì Í Î Ï 4

`5jkl` **j k l 5**

J K L 5

`6mno` **m n o** ñ ò ó ô õ ö ø **6**

M N O Ñ Ò Ó Ô Õ Ö Ø 6

`7pqr` **p q r** Þ **7**

P Q R Þ 7

`8stu` **s t u** ß u ù ú û ü **8**

S T U Ù Ú Û Ü 8

`9vwx` **v w x 9**

V W X 9

`*` . , (*

. , (*

`0yz` **y z** @ ý **0**

Y Z @ Ý 0

`#` | – +) **#**

Space | – +) **#**

Appendix F – Character map cont'd

Cyrillic

Key strokes: **1 2 3 4 5 6 7 8 9 10 11 12**

Lower case ☞ | **1**!/? | **! / ? ¡ ¿ 1**

UPPER CASE

2abc | А Б В 2

3def | Г Д Е 3

4ghi | Ж З И 4

5jkl | Й К Л 5

6mno | М Н О 6

7pqr | П Р С 7

8stu | Т У Ф 8

9vwx | Х Ц Ч Ш Щ 9

✱ | . , (*

0yz | Ъ Ы Ь Э Ю Я @ 0

| ⌴ – +)

Space

Character map cont'd

AOR-E Atlantic Ocean Region East, *see map in appendix H*.

AOR-W Atlantic Ocean Region West, *see map in appendix H*.

ARQ automatic repeat request, protocol for error detection and automatic retransmission of defective blocks of data.

ASD asynchronous data transmission

ASD function/service the built-in capability of the WorldPhone for asynchronous data transmission.

AT command used to control modem functions from the PC keyboard (ATtention).

AT modem the built-in modem of the WorldPhone that performs the modulation and demodulation required for data communication.

Azimuth horizontal direction angle between north and, e.g. the direction to the satellite.

Bit rate the number of bits transmitted per second (bps).

Bps Bits per second

CHV2 higher access level on the SIM card, corresponding to WorldPhone "owner" level.

DC Direct Current

DCE data circuit terminal equipment

Deg degrees

DTE data terminal equipment

DTMF Dual-Tone Multifrequency Dialing, pulsing in which each digit is represented by a specific pair of audio frequencies (one tone below 1000 Hz and another above 1200 Hz).

Elevation vertical angle to the satellite, e.g. the height of the satellite above the horizon.

FWD ID forward Id, telephone network identity

IMN Inmarsat Mobile Number, a unique 9-digit number which identifies each port of the WorldPhone.

Inmarsat International Maritime Satellite Organisation.

IOR Indian Ocean Region, *see map in appendix H*.

ISN Inmarsat Serial Number, individual number assigned to each WorldPhone terminal.

ISP Inmarsat Service Provider

Kbps Kilobits per second

List of terms

Appendix G – List of terms cont'd

LES Land Earth Station, a station that interconnects fixed telecommunications networks with the Inmarsat system; may also be called a CES (Coast Earth Station) or a GES (Ground Earth Station).

MES Mobile Earth Station, a user terminal for an Inmarsat system; the WorldPhone terminal is an MES for the Inmarsat Mini-M system; MES may also be called SES (Ship Earth Station) or, if on aircraft, AES (Aeronautical Earth Station).

NCS Network Coordination Station, station that supervises all messages and signals sent in the Inmarsat system; one in each Ocean Region.

NIMS Nera Internet Messages Service, allows a message of maximum 1024 characters to be sent to the WorldPhone from a website, or to an e-mail address from the WorldPhone.

Non-ARQ non-automatic repeat request, see ARQ

Ocean Region the coverage area of an Inmarsat satellite within which the WorldPhone may communicate, *see map in appendix H*.

PABX private automatic branch exchange

PCCA Portable Computer & Communications Association Modem Standards Committee.

PIN Personal Identification Number

POR Pacific Ocean Region, *see map in appendix H*.

PUK Personal Unblocking Key, code that allows unblocking a SIM card.

RF Radio Frequency

RNR Receiver Not Ready data signal

RR Receiver Ready data signal

S/A operator StandAlone operator who maintains connectivity in the event of Network Coordinating Station failure.

SIM Subscriber Identity Module

SMS Short Message System

Spot Beam an Ocean Region is divided into sub-regions, each "spotlighted" by a beam from the region satellite.

Terrestrial Network a fixed telecommunications network, such as a telephone network or a data network, which connects to the Inmarsat system at an LES/NCS.

TNID Terrestrial Network Identification Digits

UTC Coordinated Universal Time, referenced to Greenwich Mean Time (GMT)

Inmarsat Mini-M system

Inmarsat Mini-M is a satellite communications system that provides highly-reliable telephone, data and facsimile communication to and from mobile subscribers anywhere within the worldwide coverage area of the Inmarsat 3 Spot Beam system, *see map on next page*.

NCS: *Network Coordinating Station*
LES: *Land Earth Station*
(w/Net service providers)
MES: *Mobile Earth Station*
(WorldPhone terminal)

TELEPHONE NETWORKS

DATA NETWORKS

LES

NCS

MES

MES

MES
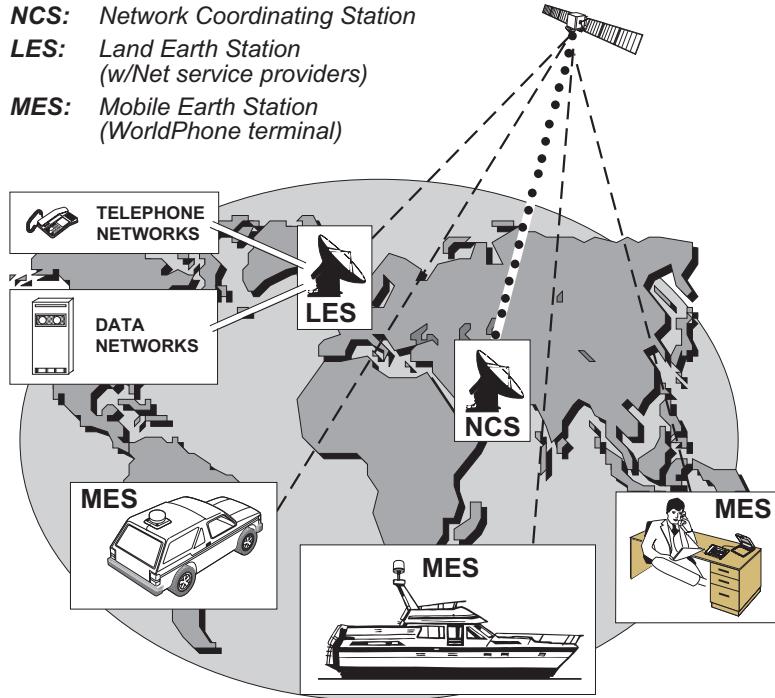
Figure 1 Overwiew of the Inmarsat Mini-M system.

System description

System satellites

The satellites are positioned in a geostationary orbit above the equator at approximately 35700 km altitude. *See figure.*

In geostationary orbit, each satellite moves at the same rate as the earth, and so remains in the same relative position to the earth.

The satellites cover approximately 1/4 of the earth each, called Ocean Regions:

AOR-W Atlantic Ocean West Region
AOR-E Atlantic Ocean East Region
IOR   Indian Ocean Region
POR   Pacific Ocean Region
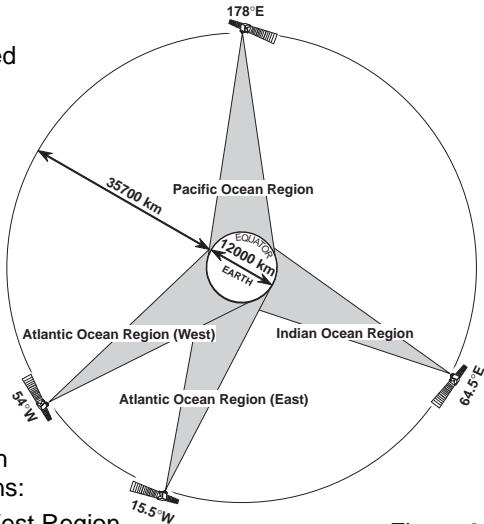
Figure 2
Satellite positions

The coverage area of the satellites for WorldPhone (Mini-M) is shown on the map below.Communication is possible in areas marked with grey.
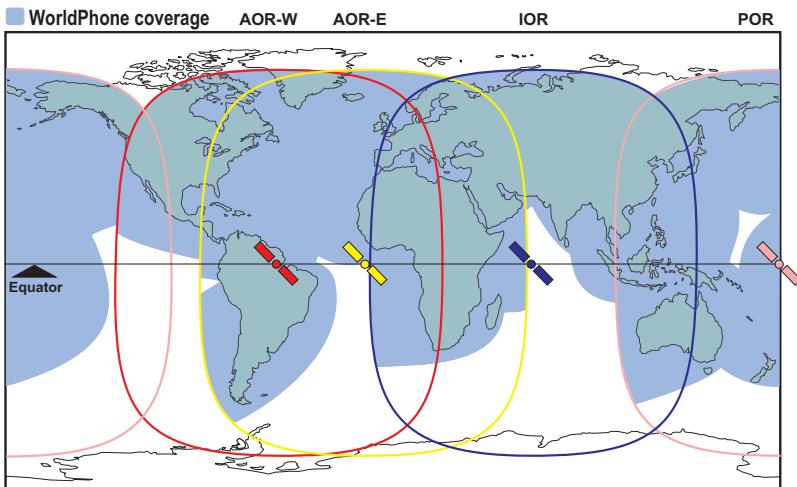
General

The WorldPhone terminal provides direct telephony, telefax, NIMS and data connection to international public networks via the Inmarsat 3 Spot Beam satellite system.

The WorldPhone terminal consists of:

• Telephone Unit (TPU).

• Universal AC adapter (WorldPhone Portable only).

• Antenna Unit (AU) including RF transceiver.

• Power Supply (WorldPhone Marine and Voyager only).

The operating functions are conducted on the telephone panel.
Only a single coax cable links the Telephone Unit and the Antenna.

Net service provider

The Net service provider issues your user licence and an IMN (Inmarsat Mobile Number) phone number. It is also responsible for the billing of calls (charges).

To make an outgoing call, you use a standard international telephone number with the 00 prefix. The WorldPhone terminal receives incoming calls via the IMN phone number.
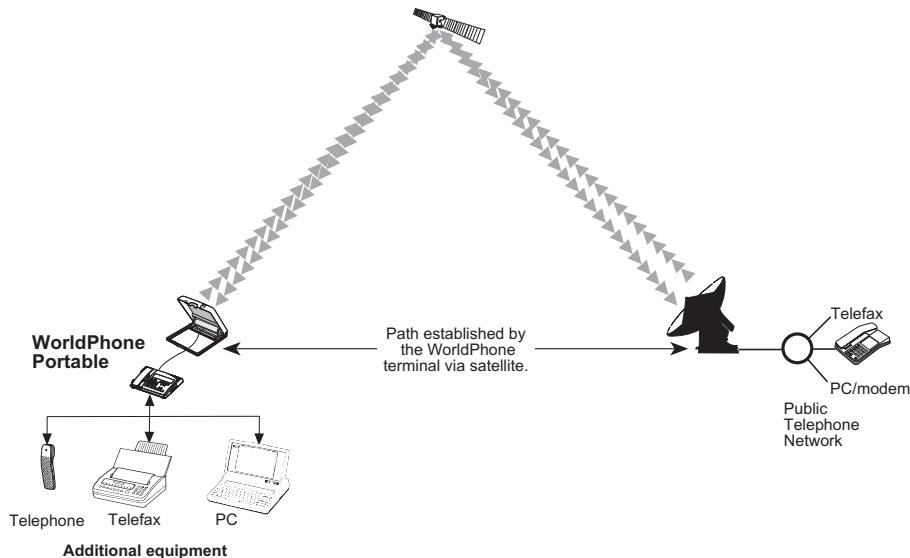
Figure 3   Communication path.

System description cont'd

Appendix H – System description cont'd

Calls from Mobiles

To make an outgoing call, you use a standard international telephone number with the 00 prefix. The mobile automatically includes information to identify the MES and the particular port that originates the call.

The WorldPhone has four ports: the basic Telephone Unit w/handset, and three connectors that are configured for telephone, data and telefax.

The LES uses the end terminal identifying information (OI) for billing purposes.

The mobile transmits the dialing information on a channel specially assigned by the NCS, to the LES, which also has been instructed to tune to the same channel. LES routes the call over the public telecommunications networks to the intended destination. When the called party responds, the call proceeds.

Calls to Mobiles

The WorldPhone terminal receives incoming calls via the IMN phone numbers. IMN numbers are assigned to the following ports:

- *Basic Telephone Unit (handset)*
- *Telephone (TEL port)*
- *Telefax service (FAX port)*
- *Data service (DATA port)*
- *NIMS service*

Calls are made as ordinary international (Satellite) calls where each Ocean Region has an international country code. If an area is covered by more than one satellite, it is necessary that the caller knows which satellite (Ocean Region) the mobile is tuned to, or if not known try the other satellite(s).

The international codes to the four Ocean Regions are as follows:

- *Atlantic Ocean East Region:* 871
- *Pacific Ocean Region:* 872
- *Indian Ocean Region:* 873
- *Atlantic Ocean West Region:* 874

Note! Some Net service providers support the common Ocean Region access no. 870, which connects the call to the dialed WorldPhone regardless of the Ocean Region the user currently communicates through.

Services

- Telephone calls – basic telephony services.
- Telefax – CCITT Group 3 facsimile services, 2.4 kbps.
- Data communication – Hayes compatible 2.4 kbps data service.
- Mail service – NIMS

1. *The WorldPhone display does not light up:*

Portable/Provident:

- Is the Telephone Unit turned on?
  Press the ON/OFF key for 2 seconds.
- Does the battery need recharging? If needed, connect the universal adapter for powering/charging.
- Is the battery inserted properly, or contacts dirty or damaged?
  Check the battery (accessible underneath the telephone unit).

Marine/Voyager:

- Is the Power Supply turned on?
- Is the Telephone Unit turned on?
  Press the ON/OFF key for 2 seconds.
- Is the Power Supply properly connected?

2. *The access PIN code appears to be invalid:*

- The code may have been changed. The access Phone PIN is reset to default by logging in as owner:

  ∗ + owner's password

  Note! The SIM card can only be unblocked using a PUK code (Pin Unblock Key). Contact the agent.

3. *The WorldPhone cannot find the satellite:*

- Check for correct position of the antenna. Check that no obstacles block the free sight to the satellite.
  Be aware that a window glass may reduce the signal level significantly. The signal strength indicator should preferably exceed 415.
- Check that the coax cable is connected properly.
- If accessible, try another antenna unit.
- The warning "Not available" appears in the display.
  To restore communication with the satellite,
  s*ee chapter 2. Operation: Advanced functions: Information available: Oscillator compensation*.

4. *The WorldPhone functions abnormally:*

- Turn off power and disconnect power cable/battery.
- Connect power cable/battery, and switch on again.

Troubleshooting

5. *Unsuccessful call attempt:*

- The called party is busy ("Subscriber busy" appears on the display).

- Call the Net service provider. If unsuccessful, wait for some time and try again.

- The WorldPhone is not properly commissioned. Check with the Net service provider.

6. *Problems with telefax:*

- Remember to press "#" as last digit before starting transmission.

- Verify that the service is commissioned, *see step 5.*

- Connect an external standard telephone to the FAX port and verify that you have a dial tone.

- Be aware of system transmission delays. The OFF-HOOK time should therefore be as long as possible (e.g. 2 minutes). When the fax machine is called, ringing time should be set to minimum (e.g. immediate answer).

- Try a different fax machine.

- Check that the port is configured for telefax service (and not voice), s*ee chapter 2. Operation: Advanced functions: Configuration*.

7. *Problems with data communication:*

- Verify correct bit rate on PC and telephone unit, *see chapter 2. Operation: Data/printer port setup*.

- Try to connect to the server through a terminal emulator.

- Check the PC program settings, and if necessary extend the timeout intervals.

- Contact the PC applications vendor for help.

Index

WorldPhone – User's Manual

NERA

TELECOMMUNICATIONS

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